State of California

BIOTERRORISM SURVEILLANCE & EPIDEMIOLOGIC RESPONSE PLAN

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Gray Davis
Governor
State of California

Grantland Johnson, Secretary
Health and Human Services Agency

Diana M. Bontá, R.N., Dr. P.H., Director
Department of Health Services

DEPARTMENT OF HEALTH SERVICES
714/744 P STREET
P.O. BOX 942732
Sacramento, CA 94234-7320

California Department of Health Services Bioterrorism Surveillance and Epidemiologic Response Plan

Acknowledgements

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I. Introduction and Background

Bioterrorism and its potential for mass destruction have been subjects of increasing concern. Terrorist groups have used or threatened to use biological agents in a variety of circumstances, both domestically and internationally. Current concerns regarding the threat of bioterrorism result from the production of biological weapons for use in the 1991 Gulf War and from the increasing number of countries that are engaged in the proliferation of such weapons. As many as ten countries possess offensive biological weapons programs and the existence of these programs increases the likelihood that biological expertise will be transferred, directly or indirectly, to groups and individuals with grievances against the government or society.

The growth of religious cults and extremist political groups also increases the threat of bioterrorism today. In 1995, a Japanese doomsday cult released the nerve agent sarin in a Tokyo subway following several failed bioterrorist attacks in Japan. The group had also planned similar attacks in the United States (U.S.). The most significant biological attack in the U.S. was the intentional contamination of restaurant salad bars with *Salmonella* by a religious cult in Oregon in 1984.

California is vulnerable to bioterrorist incidents. California has the largest population and the largest economy in the nation and continues to be a major port of entry for travelers to the U.S. One in every eight Americans lives in California and two-thirds of the population lives in the coastal urban areas surrounding the San Francisco and Los Angeles metropolitan areas. California is the home to numerous extremist groups, some motivated to bring about social disruption. In addition, numerous sophisticated biotechnology laboratories that could provide essential supplies and facilities for potential bioterrorists on-site or by theft are located in California.

The public health infrastructure at the local and state levels must be prepared to detect, control, and prevent illness and injury resulting from biological and chemical terrorism, especially a covert terrorist attack. Preparation for bioterrorism involves strengthening of the existing infrastructure for the surveillance of infectious diseases; detection, and investigation of outbreaks; identification of etiologic agents and their modes of transmission; the development of prevention and control strategies; and; the mobilization and management of resources required to respond to disease outbreaks and other health emergencies.

The California Department of Health Services (CDHS) is developing a Bioterrorism Preparedness and Response Plan for the detection and response to a biological or chemical terrorist attack. The following section of the plan addresses surveillance and epidemiologic response. The overall CDHS plan will include sections on bioterrorism preparedness; surveillance and epidemiologic response; the laboratory's role in bioterrorism detection and response; health and medical response; and, communication. The plan will be compliant with the Standardized Emergency Management System for the request and activation of resources. This plan is a working document that will be updated to reflect new developments and lessons learned in bioterrorism preparedness and response.

SURVEILLANCE AND EPIDEMIOLOGIC RESPONSE SECTION

Early detection of bioterrorist events is essential because although most diseases caused by bioterrorist threat agents are rapidly fatal, many are readily treatable and/or preventable with timely administration of appropriate antibiotics, antisera, vaccination, and/or prophylaxis following exposure. If the bioterrorist event involves a disease that is transmissible from person-to-person, early detection would also allow timely implementation of isolation and/or quarantine guidelines to prevent additional cases.

A coordinated epidemiologic investigation must be conducted as soon as a suspected bioterrorist event is detected to determine the etiology and source of the outbreak and to identify the most effective interventions to save as many lives as possible.

The objectives of this bioterrorism surveillance and epidemiologic response section are:

1) To describe how CDHS plans to enhance surveillance and epidemiologic response for suspected bioterrorist event(s);
2) To define roles and relationships between local health departments and CDHS partners in bioterrorist surveillance and epidemiologic response activities; and
3) To provide guidance to local health departments regarding bioterrorism surveillance and response strategies at the local level.

II. Bioterrorist Event Definitions

For the earliest recognition of bioterrorism, public health personnel who conduct traditional disease investigations must become familiar with unusual disease events that should increase the index of suspicion for bioterrorism. To help facilitate this early recognition among local public health officials, this section of the bioterrorism surveillance and epidemiology document attempts to define disease scenarios that may represent the initial report of a bioterrorist event.

The bioterrorist threat agents deemed the highest priority by the Centers for Disease Control and Prevention (CDC) are the causes of: anthrax (*Bacillus anthracis)*, botulism (*Clostridium botulinum),* plague *(Yersinia pestis),* smallpox (variola major)*,* tularemia *(Francisella tularensis),* and viral hemorrhagic fevers (filoviruses and arenaviruses). These agents are prioritized by the CDC based on their potential ease of dissemination, ability to cause high mortality, the need for special preparations such as vaccine development or antibiotic stockpiles and finally, the social disruption they could cause (See Appendix A for list of CDC bioterrorism threat agents). In addition, the California Department of Health Services (CDHS) has concern for the *Brucella* species as a serious potential bioterrorist threat agent in California.

With the exceptions of smallpox (the endemic transmission of which has been globally eradicated) and filoviruses, human diseases caused by these threat agents do occur in California, albeit rarely. Thus, to distinguish the patterns of disease that would be

suspicious for bioterrorism from the normal patterns of disease in California, we reviewed the surveillance data reported to CDHS from 1990 to 2000. Based on this review we categorized a list of disease events to reflect the level of concern that a particular scenario may represent as a true bioterrorist event, as well as the acuity of the public health response that would be elicited. **If a disease event on the following list is detected by local public health officials, the local and state bioterrorism response partners should be immediately notified** (see Notification, Section IV).

However, this list is not meant to be all-inclusive since there are many other common food- or water-borne agents that could potentially be used in a bioterrorist attack (e.g., the intentional contamination of salad bars with *Salmonella* Typhimurium at The Dalles, Oregon in 1984). Furthermore, while these event definitions may facilitate the early recognition of bioterrorism, public health personnel should always be alert to the occurrence of any unusual epidemiologic features that may be found through the investigation of a seemingly natural outbreak (e.g., absence of the usual risk factors for disease, or greater than expected morbidity or mortality). CDHS' Division of Communicable Disease Control (DCDC) staff is available 24 hours a day to assist local health departments in determining whether an unusual illness or cluster of illnesses should be considered suspicious for bioterrorism. The disease-specific investigation algorithms may be useful in helping to determine whether bioterrorism should be suspected (See Appendix B for Disease-Specific Investigation Algorithms).

Highly suggestive of bioterrorism:

A single definitively diagnosed or strongly suspected case of:

- Smallpox
- Inhalational anthrax
- Cutaneous anthrax (with no known risk factors compatible with naturally-occurring disease)
- Viral hemorrhagic fever (in a patient with no international travel history)

OR

Greater than one case of:

- Pneumonic plague
- Pneumonic tularemia

with at least one laboratory confirmed case, no known compatible risk factors, and occurring in a brief time period

OR

A higher than expected number of unexplained deaths occurring in a brief time period within a defined geographic region.

Moderately suggestive of bioterrorism:

A single definitively diagnosed or strongly suspected case of:

- Pneumonic plague
- Pneumonic tularemia

occurring in a patient with no known compatible risk factors

OR

A cluster of brucellosis cases occurring in persons with no known compatible risk factors

OR

A higher than expected number of presumptively diagnosed botulism cases with no known compatible risk factors occurring in a brief time period

OR

A higher than expected number of cases of unexplained severe respiratory illness requiring hospitalization, especially if occurring outside the usual flu transmission season

OR

The occurrence of any unusual epidemiologic features in a seemingly natural outbreak (e.g., the absence of the usual risk factors for disease, or the presence of unusual risk factors, or greater than expected morbidity or mortality).

III. Confirmation

Confirmation that a bioterrorism event definition has been met may require consultation among local, state, and/or federal public health officials. CDHS disease experts, including laboratorians, stand ready to assist local public health officials in assessing the clinical, laboratory, and epidemiologic features of a disease event to determine whether the disease scenario is suspicious for bioterrorism. The disease-specific investigation algorithms may be useful in helping to determine whether bioterrorism should be suspected (See Appendix B for Disease-Specific Investigation Algorithms).

IV. Notification of Suspected/Confirmed Bioterrorist Events

Once local, state and/or federal public health officials confirm that a disease scenario meets the event definition for bioterrorism, local, state, and federal bioterrorism response partners should be immediately notified.

At the local level, the local health department (LHD) is responsible for contacting their local Federal Bureau of Investigation (FBI) office. FBI is the lead law enforcement agency for crisis management of a bioterrorist event.

The State should be notified by the LHD through two major notification routes. The LHD should contact the Governor's Office of Emergency Services (OES) and should notify the California Department of Health Services (CDHS) directly by contacting the Division of Communicable Disease Control's Duty Officer of the Day (DCDC DOD) or a DCDC Bioterrorism Key Contact. The DCDC DOD is on-call 24 hours a day and is responsible for responding to all calls involving infectious disease emergencies.

When the LHD contacts the state through the OES, the LHD will call the OES Warning Control Center. The OES Warning Control Center receives warnings and notifications of all disasters in California, including acts of bioterrorism, and is responsible for notifying all appropriate local, state, and federal agencies. In the event of bioterrorism, the OES will notify CDHS Duty Officer (CDHS DO). The CDHS DO triages calls regarding public health emergencies. The CDHS DO receiving a call involving a suspected bioterrorist event will notify the CDHS Emergency Preparedness Office (CDHS EPO) Counterterrorism Coordinator and the DCDC DOD or a DCDC Bioterrorism Key Contact.

Within DCDC, four Bioterrorism Key Contacts have been identified: the State Epidemiologist, the Bioterrorism Surveillance and Epidemiologic Response Team (BSERT) Leader, the Viral and Rickettsial Disease Laboratory (VRDL) Chief, and the Microbial Diseases Laboratory (MDL) Chief. Only one Key Contact is required to be contacted, but they should be called IN ORDER until one is successfully reached (i.e., if the State Epidemiologist cannot be contacted, the BSERT Leader should be called next).

When the LHD calls the DCDC directly, they may call either the DCDC DOD or a DCDC Bioterrorism Key Contact. If the DCDC DOD is the first to be notified by the LHD, the DCDC DOD should call the CDHS DO. The DCDC DOD should also call the four DCDC Bioterrorism Key Contacts IN ORDER until one is reached.

The first DCDC Bioterrorism Key Contact to be reached is responsible for ensuring the notification of all members of the DCDC Bioterrorism Working Group: DCDC Chief, Disease Investigations and Surveillance Branch (DISB) Chief, Disease Investigations Section (DIS) Chief, Veterinary Public Health Section (VPHS) Chief, Vector Borne Diseases Section (VBDS) Chief, Surveillance and Statistics Section (SSS) Chief, BSERT Leader, VRDL Chief, and MDL Chief. If a member of the Working Group cannot be contacted, his or her designated alternate should be contacted. If the DCDC Bioterrorism Key Contact is the first to be notified by the LHD, the DCDC Bioterrorism Key Contact will also notify the DCDC DOD and the CDHS DO. The Key Contact is also responsible for

verifying that the local FBI office has already been contacted and, if not, to notify it of the situation.

When the CDHS DO first learns of a bioterrorist event through DCDC (either the DCDC DOD or a DCDC Bioterrorism Key Contact), he or she will notify the OES Warning Control Center and the CDHS EPO Counterterrorism Coordinator. The EPO Counterterrorism Coordinator will call the DCDC DOD or the DCDC Bioterrorism Key Contact to coordinate communications with the DCDC Bioterrorism Working Group.

Once the DCDC Bioterrorism Working Group is notified, the Working Group will contact the Health Officers of the appropriate LHDs. The Health Officers are then responsible for the notification of the appropriate personnel in their jurisdictions.

The Working Group will also notify the Bioterrorism Preparedness and Response Program (BPRP) at the Centers for Disease Control and Prevention (CDC).

Notification Phone Numbers

CA Department of Health Services, Division of Communicable Disease Control

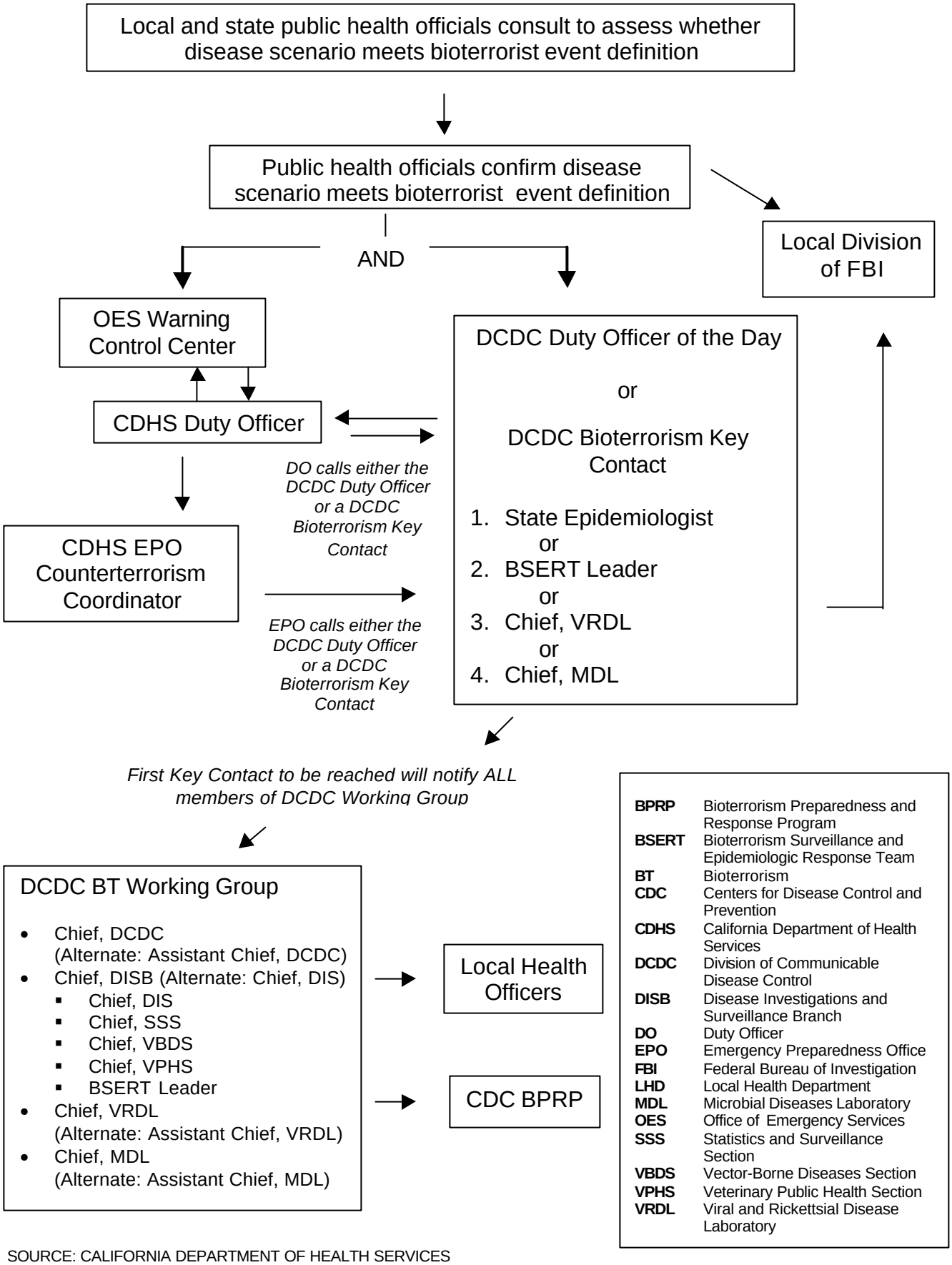
1-510-540-2566 (regular business hours)
1-800-971-9631 (pager for evenings, weekends, holidays)
1-510-540-2308 (security guard can contact DCDC DOD at home and/or via pager)

OES Warning Center

1-800-421-2921 or
1-916-262-1621 (24 hours, 365 days/year)

FBI

1-310-477-6565	Los Angeles Division
1-916-481-9110	Sacramento Division
1-858-565-1255	San Diego Division
1-415-553-7400	San Francisco Division



SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

V. Surveillance Systems for Detecting Bioterrorist Events

A. Introduction

1. Essential role of surveillance

An act of terrorism involving the release of a biological agent is a major public health emergency and requires immediate response. In contrast to other emergency events, an attack with a biological agent will probably not be detected at the time the event occurs, nor will it elicit an immediate response from police, fire or emergency medical services personnel. This is because an attack with a biological agent is likely to be covert and also because there is a delay between exposure and onset of symptoms (incubation period) which can be as long as several days, weeks or months. The difficulty of early detection is further compounded because diseases caused by many of the likely bioterrorist agents may not be accurately diagnosed until late in their course, since early symptoms tend to be non-specific. Finally, most clinicians in the United States have little or no experience with these agents (e.g., inhalational anthrax or smallpox).

Early detection of bioterrorist events is essential because although most bioterrorist threat diseases[1] are rapidly fatal and some are easily transmitted from person-to-person, many bioterrorist threat diseases are readily treatable and/or preventable if patients are provided timely and proper antibiotics, antisera and/or immunization following exposure. Conversely, bioterrorist threat diseases may prove fatal if therapy or prophylaxis is delayed until classic symptoms develop.

Early detection and rapid investigation by public health epidemiologists is critical for determining the scope and magnitude of the exposure. Delays in detection and/or epidemiologic investigation may result in illness and deaths.

2. Roles and responsibilities of CDHS

The roles and responsibilities of CDHS in bioterrorism surveillance include: 1) supporting local health departments to increase awareness of clinicians and laboratorians about bioterrorist threat agents and diseases; 2) strengthening existing disease surveillance systems; 3) utilizing and/or developing additional surveillance systems which might be useful in detecting illness resulting from bioterrorist threat agents; 4) providing technical assistance to local health jurisdictions implementing pilot surveillance systems for detecting bioterrorist events; and 5) coordinating expanded surveillance in the affected jurisdictions in the event of a

[1] The bioterrorist threat agents deemed the highest priority by the Centers for Disease Control and Prevention (CDC) are the causes of: anthrax (*Bacillus anthracis)*, botulism (*Clostridium botulinum),* plague *(Yersinia pestis),* smallpox (variola major)*,* tularemia *(Francisella tularensis),* and viral hemorrhagic fevers (filoviruses and arenaviruses). (See Appendix A for complete list of CDC high-priority diseases).

suspected bioterrorist event or other biologic disaster (see Epidemiologic Response, Section VI). Specific CDHS activities to enhance bioterrorism surveillance include:

- The revision of state disease reporting regulations to make all suspected and confirmed cases of bioterrorist threat diseases immediately reportable;
- The implementation of a rapid electronic laboratory disease reporting and alert system;
- The development of tools for increasing awareness about bioterrorism (e.g., slide sets, fact sheets, training curricula);
- The implementation of informal intra- and inter-departmental notification of unusual health events detected by existing surveillance systems (e.g., veterinary surveillance, botulinum antitoxin requests, influenza surveillance project);
- The provision of technical assistance to local health departments piloting systems or mechanisms that could be useful in the detection of bioterrorist events including surrogate measure monitoring (e.g., hospital admission diagnoses; 911 calls) and clinical syndrome reporting.

3. Roles and responsibilities of local health departments

The local health department has the lead role in the early detection and identification of a bioterrorist event. And, in the event of a confirmed bioterrorist event or other large biologic disaster, the local health department will be responsible for initiating expanded surveillance (described in Epidemiologic Response, Section VI).

At the minimum, local health departments should implement activities to educate clinicians and laboratorians about:

- their disease reporting responsibilities, especially of outbreaks and unusual disease occurrences;
- bioterrorist threat agents and diseases; and
- how to contact the local health department in case of a public health emergency.

Local health departments could also establish and/or strengthen informal disease reporting links with other partners (e.g., animal control, veterinarians, medical examiners and coroners, infection control practitioners, poison control centers, quarantine personnel).

If resources are available, local health departments may choose to implement pilot surveillance projects for improving the early detection of bioterrorist threat diseases and infectious disease outbreaks.

The following section of the CDHS bioterrorism surveillance and epidemiology plan includes an overview of activities which the state plans to implement to improve surveillance for bioterrorist events and a description of additional activities which could be considered at the state or local health department level if resources are available.

B. Overview of strategies for improving bioterrorism surveillance

Existing disease reporting systems in California are neither sensitive nor timely enough to allow a rapid response to a bioterrorist event. Current estimates are that only about 20% of some reportable diseases are actually reported in some California counties[2]. Physicians are not fully meeting their legally mandated requirements to report communicable disease occurrences because of lack of knowledge, time, interest, and the current cumbersome (paper-based) reporting process.

Early detection of bioterrorist events may be achieved through a spectrum of activities. At one end of the spectrum are detection systems that are more specific but less timely, which include mandatory reporting of diseases and conditions by health care professionals and laboratories. At the opposite end of the spectrum are detection systems that are more sensitive and timely, but less specific. For example, emergency medical services systems could collect sensitive and timely data on hospital diversion hours or 911 calls, but follow-up investigation is needed to determine whether an increase in diversions or calls is due to an unusual health event.

Strategies for strengthening the early detection of bioterrorist events may be grouped into the following categories:

- Increasing awareness of clinicians and laboratorians;
- Strengthening the communicable disease reporting system;
- Utilizing additional surveillance systems; and
- Piloting novel detection systems.

1. Increasing awareness of clinicians and laboratorians

Early detection depends upon healthcare provider and laboratorian recognition and reporting of suspicious illnesses and organisms. Increasing the awareness of clinicians and laboratorians about bioterrorist threat agents and diseases is an important strategy for improving bioterrorism surveillance. Some strategies and tools that CDHS and local health departments could use to increase awareness about bioterrorism are listed below.

[2] System Requirements and Feasibility Analysis for Communicable Disease Reporting via the Internet in California, Lawrence Livermore National Laboratory report sponsored by CDHS (October 1998).

a. Strategies for increasing awareness about bioterrorism

Education of clinicians and laboratorians about their essential roles in recognizing and reporting a possible bioterrorist event and/or other infectious disease outbreak(s) could be achieved in a variety of settings. Presentations could be given at clinical rounds at local hospitals and at meetings of local professional organizations, targeting specialists in internal medicine, emergency medicine, pediatrics, family practice, infectious diseases, critical care, pulmonary medicine, and pathology. Other target audiences include pre-hospital care providers, infection control practitioners, physician-trainees and medical students, medical examiners, veterinarians, and microbiologists. Training seminars are being given to public health laboratory personnel, health maintenance organization (HMO) laboratory personnel and other hospital laboratory personnel throughout California.

Bulletins on bioterrorism and fact sheets on the bioterrorist threat agents could be widely distributed to the medical and laboratory communities via the internet and via traditional means (mailing). Posters that list the notifiable diseases and remind health providers (emergency departments, intensive care, etc.) of their reporting obligations could also be printed and distributed. All of these activities provide an excellent opportunity for reinforcing surveillance and reporting in general.

b. Tools for increasing awareness about bioterrorism

Training curricula, disease fact sheets, and other tools for increasing awareness about bioterrorism are being developed for distribution to local health departments for use at the local level. Additional training materials are being developed for public health professionals and laboratorians including laboratory bench training and distance learning modules.

Slide presentation: CDHS has contracted with the University of California, Los Angeles (UCLA) to develop a slide set with speaker's notes to be used in presentations for clinicians (see Appendix C). Santa Clara County has concurrently developed a presentation on the clinician's role in the detection and reporting of outbreaks and unusual disease occurrences, including bioterrorist threat diseases (see Appendix D).

Fact sheets: The Centers for Disease Control and Prevention (CDC) is developing several sets of bioterrorist threat agent specific fact sheets for the media, the public, health care providers, and public health personnel.

Bioterrorist threat disease clinical descriptions: The California Local Health and State Department Bioterrorism Surveillance Working Group is developing clinical descriptions for syndromes caused the priority biological and chemical threat agents (see Appendix E). The descriptions could be distributed locally to the community to help increase awareness of clinical scenarios suggesting bioterrorism.

Public Health Workshops and School of Public Health Course: Practical, scenario-based workshops for front-line public health professionals are also being developed and implemented by UCLA. In addition, an in-depth course on bioterrorism and public health has been developed for the UCLA School of Public Health and was first offered in 2001. This course is open to students of public health and health care professionals in the community who desire a broader theoretical and practical knowledge base in the health impact of bioterrorist incidents.

2. Strengthening the communicable disease reporting system

Approaches to strengthening the existing disease reporting system include: 1) revision of disease reporting regulations to make all suspected and confirmed cases of bioterrorist threat diseases immediately reportable by health care providers and laboratories; and 2) implementation of a rapid electronic laboratory disease alert and reporting system.

a. Reporting regulations

Immediate reporting of all bioterrorist threat diseases is critical for limiting the impact of the bioterrorist event. Emergency amendments[3] to the California Code of Regulations (Title 17), effective as of November 5, 2001, made those diseases that pose a significant threat as agents of biological terrorism immediately reportable by health care providers[4] to the local health department (LHD); by the LHD to the CDHS; and by clinical laboratories, public health laboratories, and veterinary laboratories to the LHD.

The current status of the emergency regulations require health care providers to immediately report by telephone all suspected and confirmed cases of bioterrorist threat diseases, which include anthrax, botulism, brucellosis, plague (animal or human), smallpox (variola), tularemia, varicella (deaths only), viral hemorrhagic fevers, unusual

[3]The emergency amendments to the California Code of Regulations (Title 17) are available on the Internet at http://www.dhs.ca.gov/regulation.

[4] Health care providers include physicians, surgeons, veterinarians, podiatrists, physician assistants, registered nurses, nurse midwives, school nurses, infection control practitioners, medical examiners, coroners and dentists.

diseases[5], and outbreaks of any disease to the local health department. In addition, the emergency regulations also require local health officers to immediately report to CDHS by telephone upon being notified of suspected or confirmed cases of the bioterrorist threat diseases listed above.

The emergency regulation amendments also expand reporting responsibilities of clinical laboratories, approved public health laboratories, and veterinary laboratories. In addition to the 18 communicable diseases that were already reportable to the local health department within 24 hours of providing results to the physician, the newly adopted emergency regulations require laboratories to report laboratory findings indicative of the specified bioterrorist threat agent to the local health department within one hour of providing results to the physician.

Furthermore, the emergency amendments to the regulations require that whenever a laboratory receives a specimen for the laboratory diagnosis of suspected human anthrax, botulism, brucellosis, or tularemia, it must communicate by telephone with the CDHS' Microbial Diseases Laboratory (510-540-2242) for instruction (as was already required for plague); similarly, any laboratory receiving specimens for the laboratory diagnosis of suspected smallpox or viral hemorrhagic fever agents must communicate immediately by telephone with the CDHS' Viral and Rickettsial Disease Laboratory (510-307-8575) for instruction.

b. Electronic laboratory reporting

Monitoring electronic reports of requests for laboratory tests and laboratory test results could provide the earliest recognition of a bioterrorist incident.

CDHS is developing the California Electronic Laboratory Disease Alert and Reporting (CELDAR) system for improving laboratory surveillance. Electronic records will include laboratory requests for specified tests and laboratory results (positives and "probable positives"). A list of 28 electronically reportable diseases has been proposed, including anthrax, brucellosis, botulism, plague (animal or

[5] 'Unusual disease' means a rare disease or a newly apparent or emerging disease or syndrome of uncertain etiology that a health care provider has reason to believe could possibly be caused by a transmissible infectious agent or by a microbial toxin.

human), tularemia, and 'unusual diseases'[6].

In 2000, a demonstration system was developed and tested to conduct electronic laboratory reporting from the Microbial Diseases Laboratory (MDL) of CDHS in Berkeley over the CDHS intranet to the Surveillance and Statistics Section (SSS) of CDHS in Sacramento using CDC data standards. In 2001, CELDAR will expand to include four local public health laboratories (Los Angeles, San Joaquin, Sacramento and San Diego). Electronic laboratory reporting data for animal anthrax and brucellosis will also be transmitted from the California Animal Health and Food Safety (CAHFS) Laboratory System to CELDAR. Longer-term plans include the expansion of CELDAR to include additional local public health laboratories, a large health maintenance organization's laboratories and private commercial laboratories.

Indicators to monitor include unusually high numbers of requests for certain tests, initial positive lab findings for unusual infections, and laboratory requests or results for diseases that are unusual in that geographic area. The electronic reporting system will simultaneously transmit laboratory results to the CDHS Surveillance and Statistics Section and to the local health department. It will also be set up to automatically generate and broadcast alerts to BSERT, MDL, and local health department personnel.

3. Utilizing additional surveillance systems for detecting illness resulting from bioterrorist threat agents

The integration of information from other surveillance systems into the routine communicable disease reporting system could facilitate the early detection of a bioterrorist event. Existing surveillance systems that are currently being integrated to facilitate bioterrorism surveillance are described in Section A of Appendix F and include veterinary surveillance, botulism surveillance, and the California Influenza Surveillance Project.

Systems or mechanisms that could be further developed for integration are described in Section B of the Appendix F and include the Unexplained Illness and Death (UNEX) Project, the Human Encephalitis Surveillance Project, the Equine/Ratite Encephalitis Surveillance Project, vector-borne disease surveillance, the Border Infectious Disease Surveillance Project, and varicella death surveillance.

[6] Other proposed electronically reported diseases include chlamydial infections, cryptosporidiosis, diphtheria, encephalitis, *Escherichia coli* 0157:H7, gonorrhea, hepatitis A, hepatitis B, listeriosis, malaria, measles, rabies (animal or human), syphilis, tuberculosis, typhoid, *Vibrio* spp. infections, shigellosis, *Yersinia enterocolitica*, giardiasis, cyclosporiasis, meningitis, streptococcal infections - Group A, unusual diseases, melioidosis.

4. Piloting novel detection methods such as surrogate measure monitoring and clinical syndrome reporting

Where resources are available, local health departments are developing systems for detecting and responding to non-specific increases in surrogate markers (e.g., absenteeism, emergency department presenting complaints, emergency department diversions) and increases in numbers of patients seeking care for specific clinical syndromes. CDHS will endeavor to provide technical assistance when requested and will monitor the progress of pilot projects.

a. Surrogate indicator monitoring

Indirect or surrogate indicators may be useful for monitoring the presence of abnormal levels of disease, as well as for detecting a bioterrorist event. Systems for monitoring surrogate indicator data will require the development of algorithms and statistical methods for detecting unusual or suspicious events. Although surrogate measure data have the potential of being timely and sensitive, they are not specific. Unusual findings necessitate follow-up by the local public health department requiring significant resources.

Potential data sources include:

- 911 dispatch
- Emergency department diversions
- Emergency department visits or diagnoses
- Nurse advice call centers
- Poison control centers
- Over-the-counter pharmacy sales
- Medical examiner/vital statistics
- Hospital admissions/diagnoses
- Critical care unit admissions/diagnoses
- Absenteeism in schools/large worksites

b. Clinical syndrome reporting

Clinical syndrome surveillance, the reporting of clinical syndromes rather than specific diagnoses and/or laboratory-confirmed cases, has the potential for facilitating the early detection of a bioterrorist event. Clinical syndrome surveillance can be extremely resource-intensive since it requires the establishment of new infrastructure for collecting, reporting, and responding to data. Clinical syndrome reporting projects are described in Section C of the Appendix F.

VI. Epidemiologic Response to Suspected/Confirmed Bioterrorist Events

Although the steps in the epidemiologic response to a suspected bioterrorist event will be similar to other communicable disease outbreaks, the tempo will be much faster. These steps are listed below in order; however, many will be conducted simultaneously, and the importance of a particular step may vary depending on the circumstances of the outbreak. The epidemiologic preparedness and investigation checklists may be useful in the epidemiologic response planning process (See Appendices G and H for Checklists).

A. Confirmation

The first step in the epidemiologic response to a disease scenario suspicious for bioterrorism will be to reach a consensus that bioterrorism is moderately or strongly suspected, whether for a single case or for a cluster of cases (See Event Definitions, Section II). Local, state, and federal disease experts will help determine whether the clinical and/or laboratory findings are consistent with a bioterrorist threat agent and/or whether the epidemiologic evidence supports the suspicion of bioterrorism.

The CDHS Microbial Diseases Laboratory (MDL) or the Viral and Rickettsial Disease Laboratory (VRDL) will be involved in confirming the causative agent in a potential bioterrorist event (See Laboratory Section of the Bioterrorism Preparedness and Response Plan). However, in the case of diseases for which prompt laboratory diagnosis is not possible (e.g., smallpox), specimens will be forwarded to a national reference laboratory for laboratory confirmation, and clinical and other criteria will necessarily be relied upon to determine whether a disease scenario meets the event definition for bioterrorism.

B. Notification

Once it is agreed that the disease scenario meets the event definition for bioterrorism, local, state, and federal bioterrorism response partners will be immediately notified (see Notification, Section IV). The CDHS Bioterrorism Surveillance and Epidemiologic Response Team (BSERT) will be activated and will serve as the state's core epidemiologic rapid response team.

C. Coordination

California's epidemiologic response to a bioterrorist event will be coordinated by the CDHS/DCDC in the event of a multi-jurisdictional infectious disease outbreak. Local, state, and federal public health leaders will participate in the epidemiologic investigation under a joint command structure and the lead for the investigation will be determined through the joint command. In the event of a bioterrorist outbreak involving a single health jurisdiction, the CDHS/DCDC will be available to provide epidemiologic support if requested.

Several types of personnel may be required for the epidemiologic investigation including: interviewers, environmental health inspectors, disease control investigators, epidemiologists, data entry staff, and data managers. Personnel will be drawn from affected and from unaffected local health departments and from CDHS/DCDC. Approximately 40 to 50 staff members of DCDC can provide epidemiologic, interviewing, investigative, and data management assistance. More than 100 other public health professionals from CDHS' Prevention Services group are available to provide support. Finally, federal epidemiologic assistance can be requested from the Centers for Disease Control and Prevention (CDC).

The epidemiologic investigation will be coordinated with the criminal investigation conducted by the Federal Bureau of Investigation (FBI), the lead agency in the crisis management of a bioterrorist event.

D. Communication

Information from the outbreak investigation will be communicated to other California bioterrorism response partners such as the Office of Emergency Services (OES) and the Emergency Medical Services Authority (EMSA) to help guide planning for distribution of medical resources, and to the FBI.

In the event of an outbreak involving multiple health jurisdictions, release of public information regarding the epidemiologic investigation and response will be coordinated by the local health department public health information officers and the CDHS Office of Public Affairs (OPA) with the FBI to assure accurate and consistent public health messages (see Medical Response and Media Sections of the Bioterrorism Preparedness and Response Plan).

Messages may include information about the disease and its prevention, treatment and control, and the progress of the outbreak investigation. If the disease is thought to be transmissible from person-to-person, requests for locating contacts could be communicated through the media. Recommendations for treatment of cases and contacts will also be communicated directly to medical care providers by those coordinating the medical response (see Medical Response Section of the Bioterrorism Preparedness and Response Plan). Treatment and prophylaxis guidelines, infection control guidelines, and disease fact sheets will be included in the Medical Response Section of the Bioterrorism Plan.

E. Epidemiologic investigation

In a multi-jurisdictional bioterrorist event, local, state, and federal public health leaders will participate in the epidemiologic investigation under a joint command structure. The lead for the epidemiologic investigation will be determined through the joint command. In the event of a bioterrorist outbreak involving a single health jurisdiction, the CDHS/DCDC will be available to provide epidemiologic support if requested.

1. Hypothesis-generating interviews

Hypothesis-generating interviews with the initial cases will be conducted as early as possible in the epidemiologic investigation to help identify the causal agent and possible modes and locations of exposure. If the specific etiologic agent for the illness has not been identified, investigators will need to ask a broad array of exploratory clinical and exposure questions to better characterize the disease outbreak. However, if the causal agent (or agents) has been identified, questionnaires with disease-specific clinical questions combined with exploratory exposure questions will be more appropriate. Template syndromic and disease-specific questionnaires have been developed for this purpose (See Appendices I and J). Exploratory and in-depth risk exposure questions have been developed to assess various potential modes of exposure and have been included in both the syndromic and disease-specific questionnaires.

Regardless of whether the syndromic or the disease-specific questionnaires are used in hypothesis-generating interviews, the template questionnaires will have to be modified at the time of the event to reflect or incorporate available information and hypotheses. Information from the initial cases will be used to construct an epidemiologic curve, demographic and clinical profiles, and to determine possible sources of exposure.

2. Case Definition

Using the data from the initial hypothesis-generating interviews, a working case definition will be established. A uniform case definition will be used to identify additional cases requiring follow-up and to provide a meaningful case count across jurisdictions.

3. Case Finding

Case finding will be conducted by local and state public health officials through alerts to multiple potential reporting sources, including:

- Public health officials and personnel
- Public health and clinical laboratories
- Hospitals, physicians, and infection control practitioners
- Emergency medical services
- Media

Public health alerts could recommend that persons with symptoms promptly seek health care. If the source of initial exposure is known, the alerts could also recommend that persons who believe that they have been exposed should telephone the local health department for further instructions.

Hotlines could be established at the local health department to receive calls from clinicians and the public about potential cases and contacts.

The CDHS Telephone Intake Form (see Appendix K) was developed for use by local health departments to facilitate the management of incoming telephone calls during an outbreak.

4. Case Interviews

Cases will be interviewed using a uniform questionnaire. A pre-prepared template questionnaire (see Appendix J) will be modified using information generated from the hypothesis-generating interviews, to further characterize the mode or source of the exposure. In a multi-jurisdictional event, interviews will be conducted by local and state public health personnel.

5. Data Analysis

Data entry and analysis for epidemiologic investigation and contact tracing activities will be coordinated by CDHS/DCDC when a bioterrorist event involves multiple health jurisdictions. If a bioterrorist event involves a single health jurisdiction, the CDHS/DCDC will be available to provide data analysis support to the local health department. The primary objective of data analysis will be to provide timely, comprehensive data for public health and public safety decision-makers to formulate control measures to mitigate the public health impact of the event. The outbreak investigation monitoring tool can help facilitate data management and analysis activities throughout the investigation (see Appendix L).

Epidemiologists will analyze data collected from case interviews to determine:

- The magnitude and distribution of the outbreak
- Time, location, and mode of exposure
- Demographics of affected persons
- Vehicle(s) of exposure
- Persons at risk for disease (from either initial exposure or secondarily through contact with a case) who will need treatment, prophylaxis, and medical follow-up.

F. Contact tracing

If the disease is transmissible from person-to-person, those responsible for contact management will endeavor to interview possible contacts identified by cases and those identified through other means (e.g., hotline) to confirm their contact status (see Table 1 for disease-specific contact definitions). All clinical and epidemiologic information will be entered into a database for analysis. (See Appendix M for contact tracing forms for plague, smallpox and viral hemorrhagic fevers.)

All persons identified as contacts should be referred for vaccination, prophylaxis, isolation and/or quarantine as appropriate and should be kept under active surveillance (temperature checks twice a day) by those responsible for contact management (see Table 1). Contacts who develop fever will be advised to seek medical attention immediately (See Table 1 and Contact Management Algorithms, Appendix N).

Contact management forms have been developed for plague, smallpox, and viral hemorrhagic fevers (VHFs) to help facilitate the management of data from all contacts under surveillance (See Appendix O for Master Contact Surveillance Forms).

Table 1. Contact tracing guidelines (subject to revision upon release of CDC agent-specific guidelines)

	SMALLPOX[7]	PRIMARY PNEUMONIC PLAGUE[8]	VIRAL HEMORHAGIC FEVERS (VHF)[9]
Definition of a contact	A person who has been in the same household as the infected individual or who has been in face-to-face contact with the patient after the onset of fever*. Face-to-face contact is defined as contact with a patient at less than 2 meters (6.5 ft)[10]	A person having had household, hospital and/or face-to-face contact with persons with primary pneumonic plague from the onset of symptoms through completion of 48 hours of appropriate antibiotic therapy. Face-to-face contact is defined as contact with a patient at less than 2 meters (6.5 ft)	A person having had physical contact with a case or the body fluids of a case within 3 weeks after the onset of illness. Physical contact includes sharing the same room/ bed, caring for the patient, touching body fluids, testing patient laboratory specimens.
Temperature checks (2x/day): # days after last exposure to case	17 days	7 days	21 days
Temperature at which contact should seek medical attention	> 100.4° F / 38° C		

*It may be necessary to locate all face-to-face contacts with the case up to 17 days prior to the case's onset of fever for epidemiologic purposes (e.g., to locate all persons who might have been exposed to a common source and who may also be ill or incubating infection)[11].

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

[7] Adapted from JAMA Consensus Statement: Smallpox as a Biological Weapon, Medical and Public Health Management, 1999.
[8] Adapted from JAMA Consensus Statement: Plague as a Biological Weapon, Medical and Public Health Management, 2000 and CDC Prevention of Plague: Recommendations of the Advisory Committee on Immunization Practice, 1996.
[9] Adapted from WHO recommended Guidelines for Epidemic Preparedness and Response: Ebola Haemorrhagic Fever (EHF), 1997 and APHA Control of Communicable Diseases Manual, 2000.
[10] Adapted from Vaccinia Vaccine (Smallpox Vaccine) Recommendations of the Advisory Committee on Immunization Practices (ACIP) – 2001.
[11] Adapted from Comprehensive Action in a Smallpox Emergency, U.S. Department of Health, Education and Welfare,1971.

G. Laboratories

Epidemiologic response personnel will refer questions regarding specimen collection, packaging, storage, and shipment to the appropriate point of contact at the local public health laboratory (See Laboratory Section of Bioterrorism Preparedness and Response Plan).

H. Expanded surveillance for non-human populations

If the disease outbreak is thought to involve animals, public health officials from the Vector-Borne Diseases Section (VBDS) and Veterinary Public Health Section (VPHS) will coordinate enhanced vector and veterinary surveillance as necessary.

The ability of an aerosolized release of a vector-borne bioterrorist agent targeted against humans to subsequently affect reservoir populations depends on many factors (e.g., specific location – indoors or outdoors, geographical location – urban or rural, presence of competent reservoir and vector populations, climatic factors, season, etc.). The actual likelihood of such an occurrence would presumably be low. However, if location and environmental factors were conducive to exposing competent reservoir populations to the bioterrorist agent, it would be prudent to establish surveillance and possible vector control activities.

After an aerosolized release of a vector-borne bioterrorist agent, VBDS could conduct a risk assessment to determine the risk of subsequent vector-borne transmission (by measuring the local vector/reservoir densities and their competencies. This could be very useful for those involved in the managing the bioterrorist event response.

Domestic and wildlife populations may experience morbidity and mortality due to bioterrorist agents. If animals are affected in a bioterrorist attack, VPHS will coordinate with California Department of Food and Agriculture (CDFA), the California Department of Fish and Game (CDFG), and veterinary practitioners to monitor susceptible animal populations and to implement appropriate control measures (e.g., quarantine, treatment, and vaccination) to prevent spread of the disease within animal populations.

I. Recommendations for public health action

Experts have compiled consensus treatment and post-exposure prophylaxis guidelines for the top-threat bioterrorist agents (See Medical Response Section of the Bioterrorism Preparedness and Response Plan). However, in addition to the consensus treatment guidelines, results from analyses of outbreak-specific epidemiologic data will be used to identify the exposed population(s), priority groups for prophylaxis, and the appropriate strategies for quarantine and isolation. This information will be provided to those responsible for coordinating the medical response.

The Medical Response Section of the Bioterrorism Preparedness and Response Plan will also contain guidelines and recommendations for disease prevention and control measures, including:

- Treatment of cases
- Prophylactic treatment of exposed persons
- Isolation of cases and quarantine of exposed persons, if necessary
- Use of personal protective equipment (PPE)
- Implementation of infection control practices
- Appropriate handling of the vehicle or source, if necessary

J. Overt or announced bioterrorist threat

The epidemiologic response to an overt or announced bioterrorism event shall be guided by the FBI and law enforcement assessment of the credibility of the threat. If the FBI believes the threat to be credible and has obtained information about the time, place, mode, and/or contents of the release, this information should be made available by the FBI to public health personnel as soon as possible so that public health can:

- define the population at risk for exposure to the biological agent;
- locate the persons at risk for exposure as soon as possible to assess them for illness and provide appropriate preventive treatment;
- monitor the persons who have received preventive treatment for symptoms or signs of disease; and
- implement enhanced surveillance for the suspected disease at health care facilities, laboratories, and emergency medical services. Active surveillance for diseases caused by other potential bioterrorist threat agents should also be conducted, as multiple biological agents may have been released at the same time or serially.

Notification of public health and medical personnel and any release of public information shall be coordinated with the FBI. The epidemiologic investigation shall be coordinated with the FBI's criminal investigation.

If cases of illness are found that do not fit epidemiologically with the alleged time, place, or mode of exposure, a full epidemiologic investigation should be conducted to determine the actual time and conditions of exposure, just as if the event had been covert.

APPENDIX A: CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) TOP PRIORITY BIOTERRORISM THREAT AGENTS

Category A

High-priority agents include organisms that pose a risk to national security because they:

- can be easily disseminated or transmitted person-to-person
- cause high mortality, with potential for major public health impact
- might cause public panic and social disruption
- require special action for public health preparedness

Category A agents include:

- *Bacillus anthracis* (anthrax)
- *Clostridium botulinum* toxin (botulism)
- *Francisella tularensis* (tularemia)
- variola major (smallpox)
- *Yersinia pestis* (plague)
- Filoviruses
  - Ebola virus (Ebola hemorrhagic fever)
  - Marburg virus (Marburg hemorrhagic fever)
- Arenaviruses
  - Junin virus (Argentinian hemorrhagic fever) and related viruses
  - Lassa virus (Lassa fever)

Category B

Second highest priority agents include those that:

- are moderately easy to disseminate
- cause moderate morbidity and low mortality
- require specific enhancements of public health diagnostic capacity and enhanced disease surveillance

Category B agents include:

- Alphaviruses
  - Eastern and western equine encephalomyelitis viruses (EEE, WEE)
  - Venezuelan equine encephalomyelitis virus (VEE)
- *Brucella* species (brucellosis)
- *Burkholderia mallei* (glanders)
- *Coxiella burnetii* (Q fever)
- Epsilon toxin of *Clostridium perfringens*
- Ricin toxin from *Ricinus communis*
- Staphylococcal enterotoxin B

A subset of Category B agents includes pathogens that are food- or waterborne. These pathogens include but are not limited to:

- *Cryptosporidium parvum*
- *Escherichia coli* O157:H7
- *Salmonella* species
- *Shigella dysenteriae*
- *Vibrio cholerae*

Category C

Third highest priority agents include emerging pathogens that could be engineered for mass dissemination in the future because of:

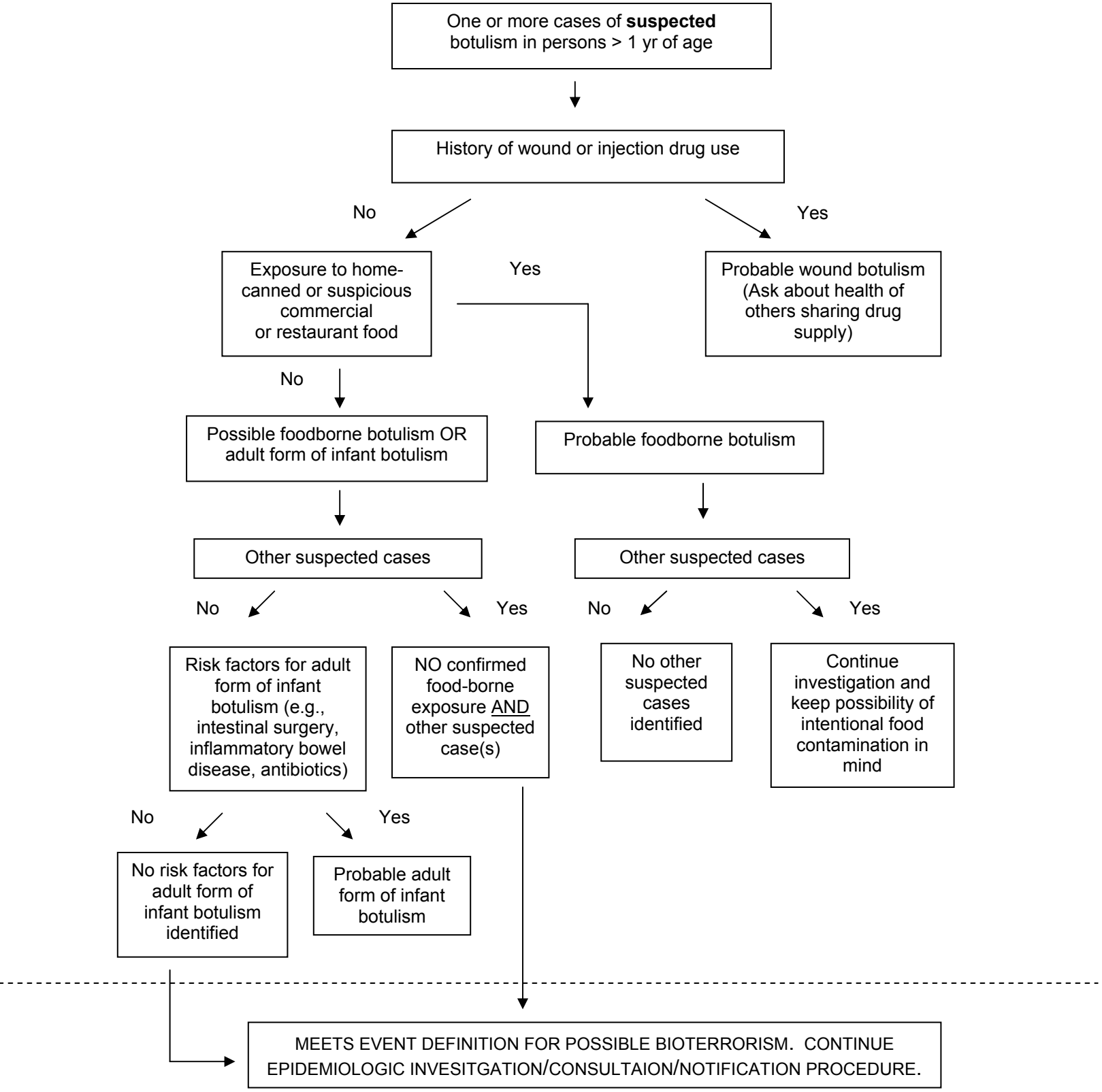
- availability
- ease of production and dissemination
- potential for high morbidity and mortality and major health impact

Category C agents include:

- Hantaviruses
- Multidrug-resistant tuberculosis
- Nipah virus
- Tickborne encephalitis viruses
- Tickborne hemorrhagic fever viruses
- Yellow fever

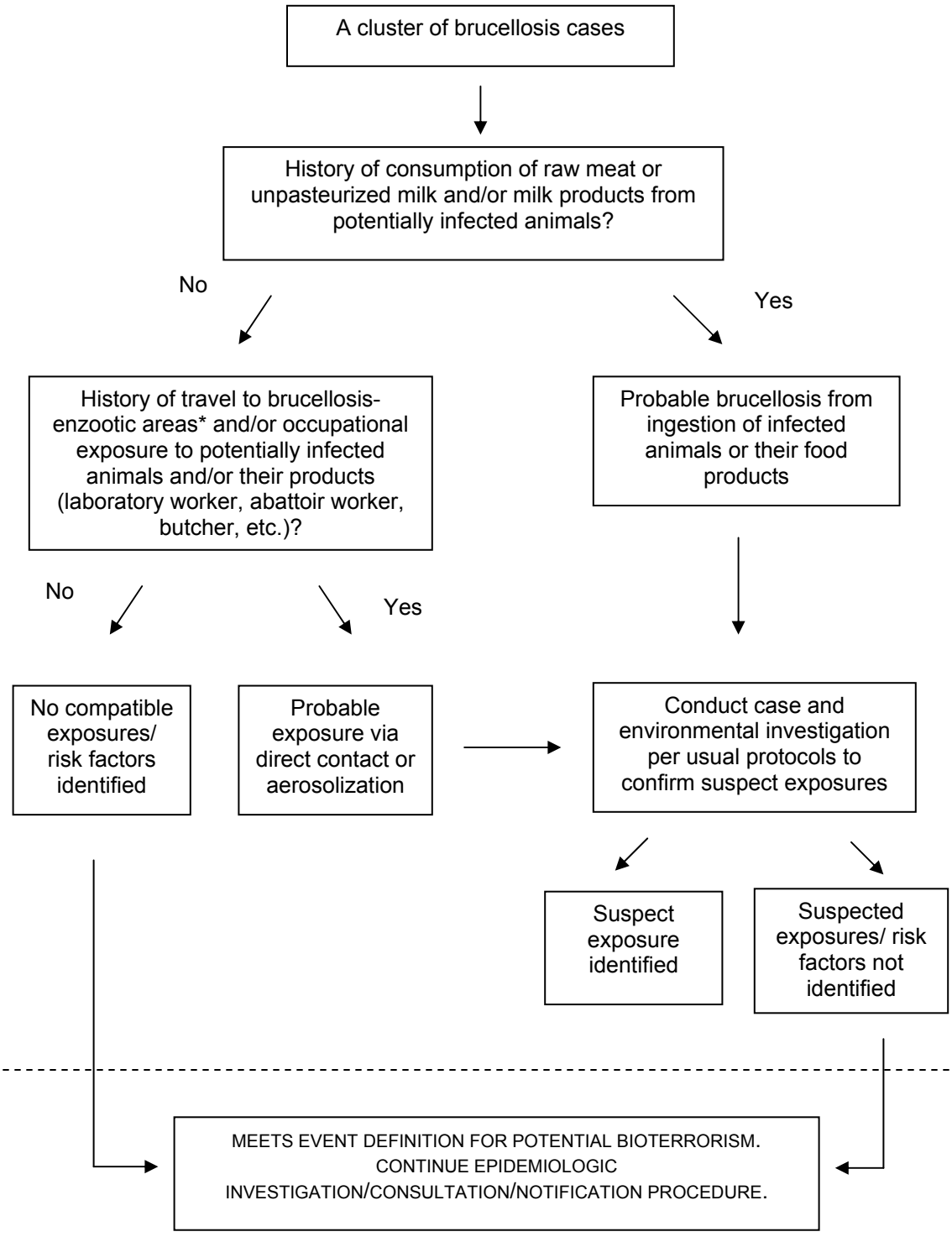
Preparedness for List C agents requires ongoing research to improve disease detection, diagnosis, treatment, and prevention.

APPENDIX B-1: BOTULISM INVESTIGATION ALGORITHM



SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

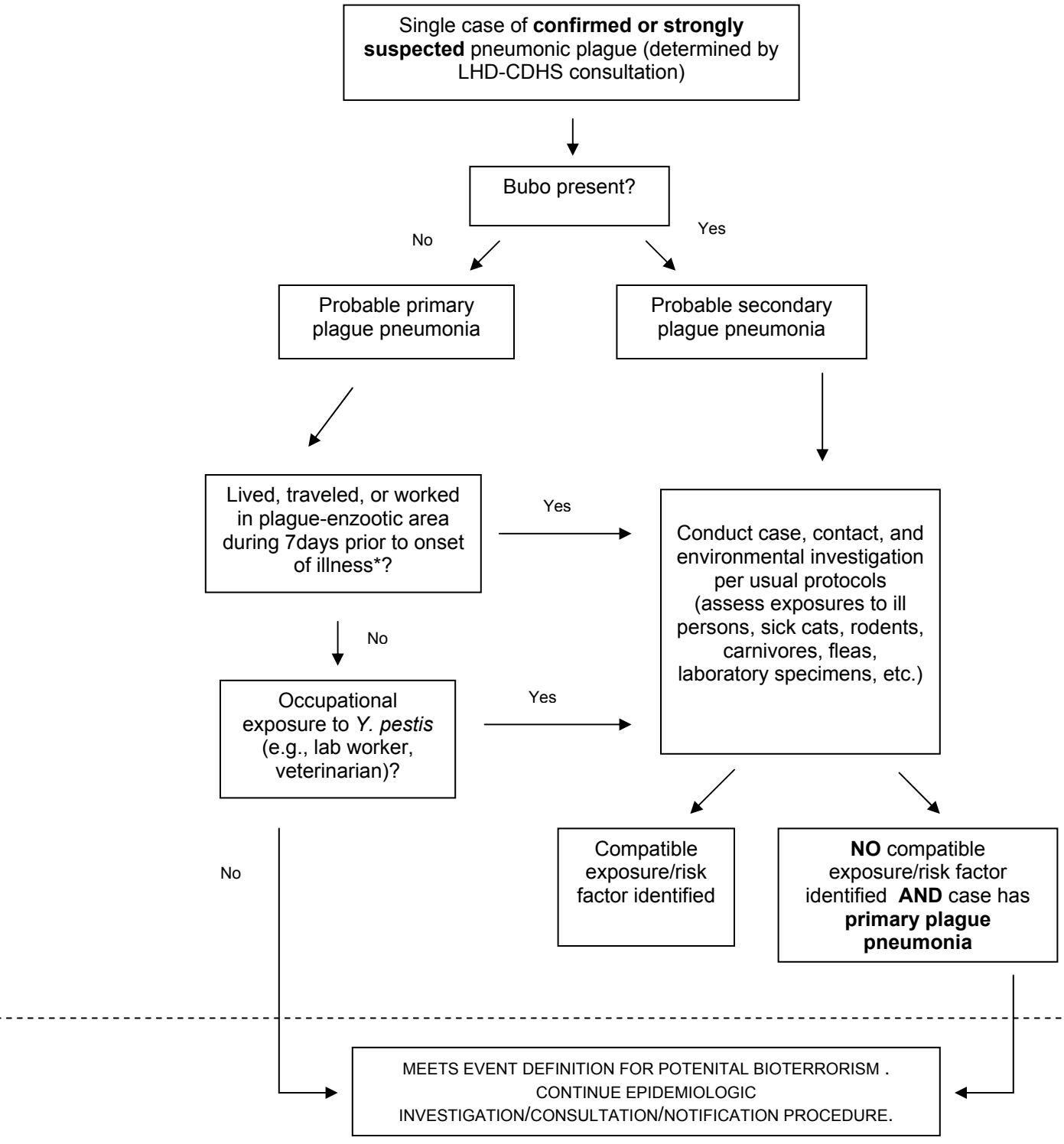
APPENDIX B-2: BRUCELLOSIS INVESTIGATION ALGORITHM



*Information on brucellosis-enzootic areas may be obtained from CDHS, Disease Investigations and Surveillance Branch, Veterinary Public Health Section.

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

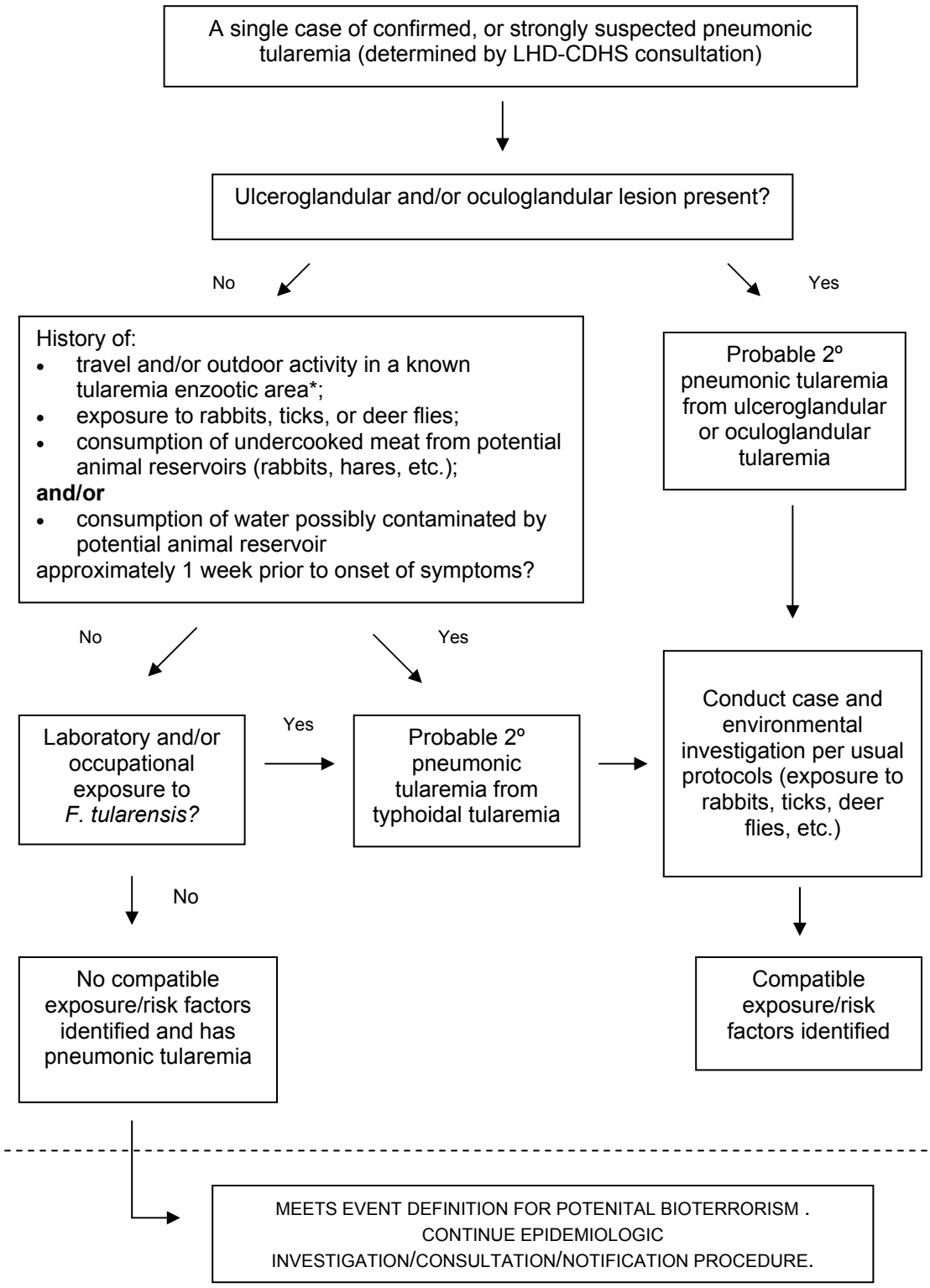
APPENDIX B-3: PNEUMONIC PLAGUE INVESTIGATION ALGORITHM



*Information on plague-enzootic areas is available from CDHS, Disease Investigations and Surveillance Branch, Vector Borne Diseases Section.

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

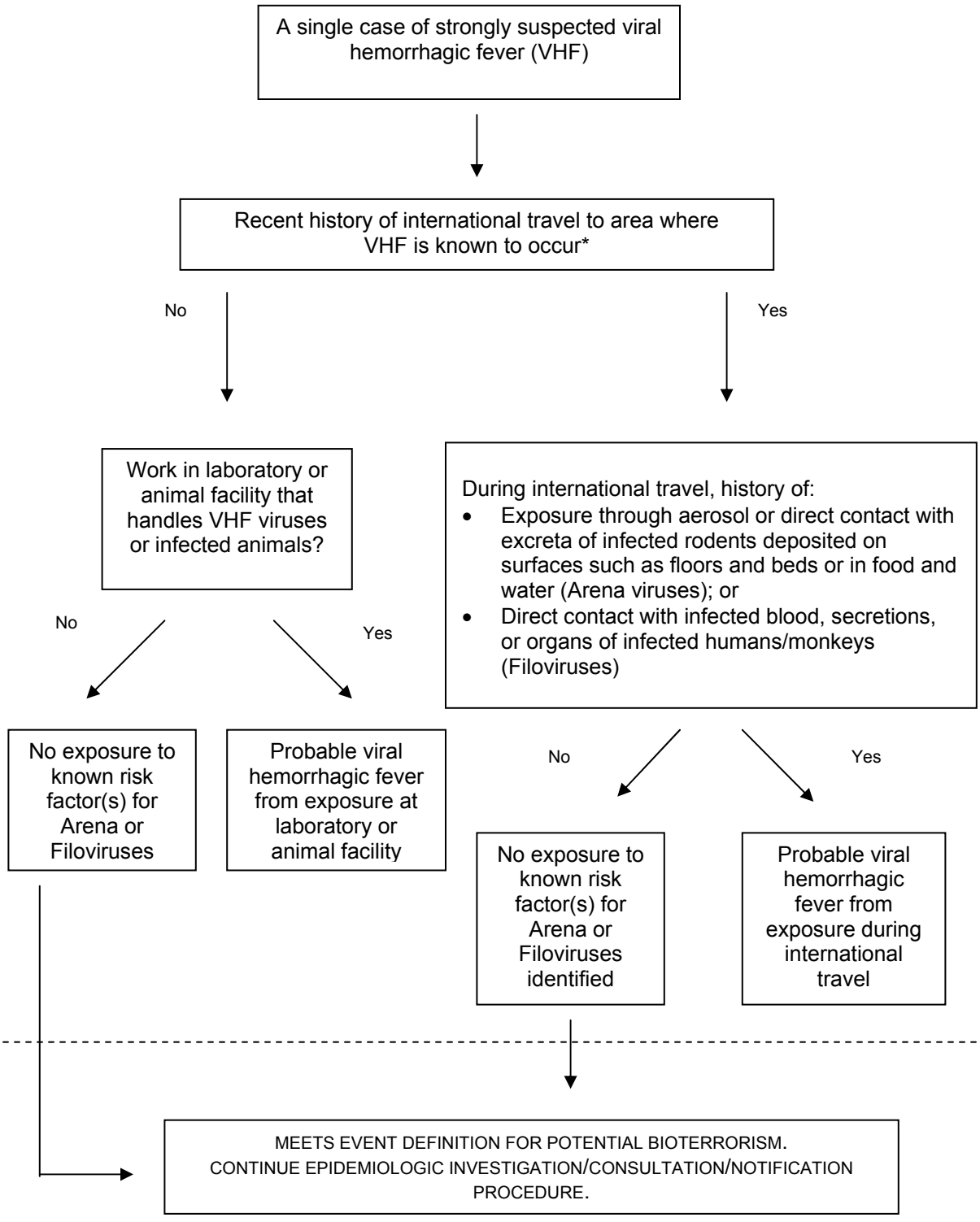
APPENDIX B-4: PNEUMONIC TULAREMIA INVESTIGATION ALGORITHM



*Information on tularemia-enzootic areas is available from CDHS, Disease Investigations and Surveillance Branch, Veterinary Public Health Section.

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX B-5: VIRAL HEMORRHAGIC FEVER (VHF) INVESTIGATION ALGORITHM



*Information on areas where VHF is known to occur may be obtained from California Department of Health Services (CDHS), Division of Communicable Disease Control, Disease Investigation and Surveillance and Viral and Rickettsial Diseases Laboratory Branches.

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX C: UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA) SLIDE PRESENTATION:

"BIOTERRORISM: ARE YOU PREPARED?"

(Posted on CDHS website http://www.dhs.ca.gov/ps/dcdc/bt/index.htm)

APPENDIX D: SANTA CLARA COUNTY PUBLIC HEALTH DEPARTMENT PRESENTATION:

"REPORTING A SUSPECT BIOTERRORISM (BT) EVENT: ROLE OF THE CLINICIAN, THE LOCAL HEALTH DEPARTMENT AND OTHERS"

(Posted on CDHS website http://www.dhs.ca.gov/ps/dcdc/bt/index.htm)

APPENDIX E: CLINICAL DESCRIPTIONS FOR SYNDROMES CAUSED BY PRIORITY BIOLOGICAL AND CHEMICAL THREAT AGENTS

(Posted on CDHS website http://www.dhs.ca.gov/ps/dcdc/bt/index.htm)

APPENDIX F: SURVEILLANCE SYSTEMS FOR DETECTING ILLNESS FROM BIOTERRORIST THREAT AGENTS

The integration of information from other surveillance systems into the routine communicable disease reporting system could facilitate the early detection of a bioterrorist event. Existing surveillance systems that are currently being integrated to facilitate bioterrorism surveillance are described in Section A. Systems or mechanisms that could be further developed for integration are described in Section B.

Novel detection methods for detecting bioterrorist events include surrogate measure monitoring and clinical syndrome reporting. Clinical syndrome reporting projects are described in Section C.

A. INTEGRATING EXISTING SURVEILLANCE SYSTEMS TO FACILITATE BIOTERRORISM SURVEILLANCE

Veterinary surveillance: A bioterrorist event might be detected concurrently or first in animals because most of the top threat bioterrorist agents are zoonotic. Veterinarians are required to report diseases and conditions of humans to their Local Health Department as described in Section VB2a. In addition, all licensed veterinarians and veterinary laboratories are required to report more than 50 contagious or transmissible diseases of animals to the Animal Health Branch of the California Department of Food and Agriculture (CDFA)[1]. Die-offs and morbidity in commercial animal populations are also reportable events. However, die-offs and morbidity in non-commercial animal populations are not generally reported. Die-offs in wildlife populations are monitored and investigated by veterinarians with the California Department of Fish and Game (DFG).

The California Animal Health and Food Safety Laboratory System (CAHFSL), the Animal Health Branch of the CDFA, and DFG already informally communicate zoonotic disease events to the CDHS Veterinary Public Health Section (VPHS). This exchange will be supplemented by the inclusion of CAHFSL laboratory data on animal anthrax and brucellosis in the CELDAR electronic reporting system as described in Section VB2b.

Botulism: To facilitate detection of a bioterrorist event caused by botulinum toxin, CDHS will internally monitor botulinum antitoxin requests. CDHS provides epidemiologic consultation, laboratory diagnostic services and botulinum antitoxin to local health departments in suspected non-infant botulism cases. When foodborne, wound, or the adult form of infant botulism is suspected, antitoxin is released[2] from any of four locations depending on the location of the case or suspected case. Statewide data regarding antitoxin releases and laboratory confirmation of cases are available at

[1] Animal plague and animal anthrax are reportable by telephone within 24 hours and animal brucellosis must be reported by mail within 3 days of diagnosis.
[2] The decision to use antitoxin is a clinical one and is not based on a laboratory test (which can typically take days).

CDHS, except for antitoxin releases and laboratory testing conducted by the Los Angeles County Department of Health Services.

Influenza Surveillance Project: Effective surveillance for influenza activity could facilitate recognition of a bioterrorist event since many potential bioterrorist agents may initially present with a nonspecific influenza-like illness (e.g., inhalational anthrax, smallpox, tularemia, brucellosis).

The California Influenza Surveillance Project (CISP) initiated in 1998, employs a variety of surveillance methods to monitor the timing and impact of annual influenza activity. Active surveillance during the influenza season includes the monitoring of: Kaiser inpatient admission data[3]; Kaiser anti-viral pharmacy data; Sentinel Physicians' reports of outpatient influenza-like illnesses[4]; respiratory virus isolation and detection data from approximately 19 county, hospital, academic, and private laboratories; ER diversion hours from 4 counties; and ambulance calls from 2 counties. Data collected outside of the normal influenza season include Kaiser inpatient admission data and Sentinel Physicians' reports.

Influenza surveillance data could prove to be very useful for detecting suspected bioterrorist events especially those occurring outside of the usual flu season. Data collection and analysis methods will need to be further developed and evaluated to determine their usefulness for the detection of bioterrorist events.

B. CANDIDATE SURVEILLANCE SYSTEMS THAT COULD BE INTEGRATED TO FACILITATE BIOTERRORISM SURVEILLANCE

Unexplained Illness and Death Project (UNEX): Several of the agents deemed most likely to be used in bioterrorism may cause the critical illness syndrome[5] being studied in the Unexplained Illness and Death (UNEX) Project funded by the CDC. UNEX is a multi-state enhanced surveillance and intensified laboratory-testing program that identifies and evaluates cases of severe unexplained illness (fatal and nonfatal) in young persons based on syndrome-specific clinical presentations. At the moment, only fatal cases are being investigated, but eventually nonfatal cases will also be investigated. Alameda, Contra Costa, and San Francisco counties are the California counties included in the UNEX project, although clusters of cases with the critical illness syndrome in other California counties are also evaluated.

Cases are detected through both active and passive surveillance at participating UNEX project sites. All clinicians in the participating sites have been asked to report potential cases to local Emerging Infections Program (EIP) personnel. At the same time, EIP

[3] Inpatient diagnosis of pneumonia, influenza or influenza-like illness (ILI).

[4] Fever greater than or equal to 100° F (≥37.8° C) and either cough or sore throat in the absence of a known cause.

[5] Any unexpected infectious death with the following criteria: 1 – 39 years old; previously healthy without severe underlying illness or immunosuppression (e.g., no AIDS, cancer, organ transplantation); hallmarks of infectious disease within 48 hours before death (i.e., fever or leukocytosis); preliminary testing, such as a blood culture, has not revealed a cause.

staff actively identify cases through a network of health professionals including public health authorities, Intensive Care Unit (ICU) nurses and physicians, infection control practitioners, infectious disease specialists, pathologists, coroners, and medical examiners. Death certificates are regularly reviewed to identify potential cases not reported by other means.

The surveillance methods used by the UNEX project for detecting and reporting unexplained fatal illnesses could be useful for detecting a bioterrorist event but are resource-intensive. As mentioned above, the UNEX project is currently being conducted in only three counties and is staffed with EIP personnel who are responsible for evaluating, reporting and responding to reports of unexplained deaths. The adoption of these methods outside of the UNEX project sites would require major commitment at the local level since all activities, including the establishment of new surveillance infrastructure for evaluating and responding to reports of suspected cases (fatal and nonfatal) would necessarily be concentrated at the local level.

Human Encephalitis Surveillance Project: Alphaviruses, including western equine encephalitis virus (WEE), eastern equine encephalitis virus (EEE) and Venezuelan equine encephalitis virus (VEE), could be employed as bioterrorist agents via infected mosquitoes or aerosol dissemination and have been categorized by the CDC as Category B (second highest priority) agents[6]. VEE, EEE, and WEE are the only alphaviruses regularly associated with encephalitis. The Human Encephalitis Project implemented by the CDHS Viral and Rickettsial Disease Laboratory (VRDL) could detect an outbreak caused by an alphavirus as it provides comprehensive diagnostic testing services that are not normally available for encephalitis cases[7].

The overall purpose of this CDC-funded project is to better characterize encephalitis in humans (e.g., the etiologic agents, risk factors and clinical features) through enhanced diagnostic testing and epidemiology. The laboratory-testing component of the project is very resource-intensive and activities to date have been focused in sentinel health facilities. Although the project is not population-based, monitoring diagnostic testing requests for encephalitis cases could be helpful in detecting a disease outbreak (natural or otherwise).

Equine/Ratite Encephalitis Surveillance Project: The Veterinary Public Health Section (VPHS), in conjunction with CDFA, conducts the Equine/Ratite Encephalitis Surveillance Project which could be useful in detecting either a natural outbreak or a bioterrorist event. EEE, WEE, and VEE viruses are causes of viral encephalitis in

[6] Alphaviruses (VEE, EEE, WEE) have been categorized by the CDC as Category B (second highest priority) bioterrorist agents because they are moderately easy to disseminate; they cause moderate morbidity and mortality; and they require specific enhancements of public health diagnostic capacity and enhanced disease surveillance.

[7] Any patient hospitalized with encephalopathy (depressed or altered level of consciousness $\geq$ 24 hours, lethargy, or change in personality) AND has one or more of the following: fever (T $\geq$ 38º C), seizure(s), focal neurologic findings, cerebrospinal fluid pleocytosis, abnormal electroencephalogram or neuroimaging study. Case patients must be $\geq$ 6 months of age. Severely immunocompromised patients, including HIV-infected and organ transplant patients are not eligible.

equines (horses, donkeys, mules) and ratites (ostriches, emus), although neither EEE nor VEE are known to occur in California. Equines and ratites may serve as sentinel animals because natural infections in these animals often precede human cases by approximately two weeks; likewise, animal infections following a bioterrorist event may be recognized prior to human cases. It should be noted that equine disease due to WEE and EEE are less sensitive indicators of epizootic activity because of the widespread vaccination of equines against WEE/EEE infections.

Vector-borne disease surveillance: Some of the priority bioterrorist threat agents (e.g., *Yersinia pestis*, *Francisella tularenis*, alphaviruses) are vector-borne and could be spread by the purposeful introduction of infected vector species. Thus, an efficient vector surveillance system could detect the introduction of an exotic vector species or an unusual increase in the numbers of native vector species.

The CDHS Vector-Borne Disease Section (VBDS) in cooperation with local, state and federal agencies conducts routine vector surveillance and control activities for plague and mosquito-borne diseases. Information on suspect and confirmed plague activity among humans, domestic pets, and wild animals is monitored by VBDS. The California Arbovirus Surveillance Program[8] monitors and tests mosquitoes for arbovirus[9] infection and implements serological monitoring of sentinel chickens for St. Louis encephalitis virus (SLE) and WEE antibodies.

Some activities that could strengthen vector surveillance in terms of bioterrorism preparedness could include cataloguing potential vector species at the local level and conducting competence studies of California species relative to the introduction of exotic pathogens.

Border Infectious Disease Surveillance Project: Release of a biological agent in southern California or Mexico could affect populations on both sides of the United States – Mexico border. The CDHS Office of Binational Border Health in collaboration with the CDC Border Infectious Disease Surveillance (BIDS) Project is establishing an active sentinel surveillance network along both sides of the border. This surveillance project will initially focus on syndromes consistent with hepatitis (A-E) and febrile exanthems (e.g., measles, rubella, dengue, and typhus). This system could include other diseases, including bioterrorist threat diseases.

Varicella deaths: A varicella death could reflect an unrecognized case of smallpox. Varicella deaths are nationally notifiable. In California, emergency amendments to the California Reporting Regulations (Title 17) became effective as of November 5, 2001 to require health care providers to immediately notify by telephone all varicella deaths to the local health jurisdiction. The emergency regulations also require the local health

[8]The California Arbovirus Surveillance Program is conducted by CDHS, the Mosquito and Vector Control Association of California and the University of California.

[9] Although 12 mosquito-borne viruses are known to occur in California, testing has only been done for WEE and SLE which have caused significant outbreaks of human disease. In 2000, surveillance for West Nile Virus in mosquito pools was initiated.

officer to immediately report by telephone to the CDHS all varicella deaths. Additionally, varicella death reports are monitored by the CDHS Immunization Branch through the review of death certificates.

C. CLINICAL SYNDROME REPORTING

Clinical syndrome surveillance, the reporting of clinical syndromes rather than specific diagnoses and/or laboratory-confirmed cases, has the potential for facilitating the early detection of a bioterrorist event. Clinical syndrome surveillance has been implemented in several surveillance projects in California including: 1) the California Influenza Surveillance Project; 2) an emergency department-based clinical syndrome surveillance project implemented by the Los Angeles County Department of Health Services and the CDC during the Democratic National Convention (DNC) in September 2000; and 3) a collaborative electronic laboratory and syndrome reporting pilot project implemented by CDHS and Northern California Kaiser Permanente (a region-wide health maintenance organization and diagnostic laboratory system).

Clinical syndrome surveillance is one of the methods used by the ongoing California Influenza Surveillance Project (CISP) to monitor trends in influenza-like illness and has proven to be quite useful. Clinical syndrome surveillance is also being used by the Unexplained Illnesses/Deaths Project (UNEX) to detect unexplained cases of infectious illness. (See sections A and B for descriptions of the CISP and UNEX projects.)

Emergency department-based clinical syndrome surveillance was conducted by the Los Angeles County Department of Health Services and the CDC during the Democratic National Convention (DNC) in September 2000. Clinicians were asked to provide demographic and clinical syndrome information[10] on every patient seen at the emergency department. Data were entered by hospital personnel into a secure website and stored on a remote server. Data were monitored hourly during the day and three times each night for the occurrence of rare syndromes (e.g., botulism-like illness, encephalitis). Data were analyzed daily to assess increases in the proportions of clinical syndromes being reported. Participants concluded that clinical syndrome surveillance could be useful for a short-term, high-risk event, but that it is too resource-intensive to be used routinely.

In 1999, CDHS and Northern California Kaiser Permanente piloted a syndrome reporting project that involved the retrospective grouping of disease diagnoses (from patient records) into syndromes[11]. (This project was different from the Los Angeles County DNC project where clinicians reported specific clinical syndromes in real time.) Both electronic laboratory and clinical syndrome data (diarrheal and sexually transmitted diseases) were submitted to CDHS for processing and evaluation.

[10] Emergency Department clinicians were asked to report patients with one of seven clinical syndromes: Upper or lower respiratory tract infection with fever; diarrhea/gastroenteritis; rash and fever; sepsis or non-traumatic shock; meningitis, encephalitis or unexplained acute encephalopathy/delirium; botulism-like syndrome; unexplained death with history of fever; OR none of the above.

[11] Generic gastrointestinal diagnoses and non-reportable STD-like symptom diagnoses.

Electronic and paper reporting were compared in three counties and it was found that almost 15% of the cases diagnosed by Kaiser laboratories were not identified in CDHS disease reports, probably due to lack of reporting. These findings were presented to the Northern California Communicable Disease Control Officers who were enthusiastic about the prospect of web-based reporting. A transition toward use of electronic laboratory reporting may be beneficial to laboratories, LHDs and CDHS in managing and compiling surveillance data. It should be noted that the syndromic reporting component of this type of reporting system can be quite labor intensive since it requires data extraction from patient records.

APPENDIX G: BIOTERRORISM EPIDEMIOLOGIC PREPAREDNESS CHECKLIST

Local Health Department Bioterrorism Epidemiologic Preparedness Checklist
Consultation/ Confirmation ❑ Discuss bioterrorism event definitions with key public health personnel (health officer, communicable disease control staff, laboratorians, etc.)
Laboratory Confirmation ❑ Identify nearest Level B laboratory [See Laboratory Section of CDHS Bioterrorism Plan] ❑ Identify point of contact (POC) at appropriate Level A and/ or Level B public health laboratory in a potential bioterrorist event [See Laboratory Section of CDHS Bioterrorism Plan]
Notification ❑ Establish local notification network to be activated in case of a possible bioterrorist event; disseminate contact information and notification protocol ❑ Establish relationships with local OES and FBI contacts to be notified in a suspected bioterrorist event and maintain up-to-date contact information
Coordination ❑ Establish Epidemiologic Response as a part of local Incident Command System ❑ Identify personnel available for epidemiologic investigation and perform inventory of skills and duties ❑ Establish contacts at other local health jurisdictions and CDHS to identify potential personnel resources available for epidemiologic “mutual aid” ❑ Establish contacts at the local FBI office for coordination with epidemiologic/ criminal investigation

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

Communication

- ❑ Identify epi investigation spokesperson and Public Information Officer (PIO)
- ❑ Establish communication protocol to be implemented during epi investigation between PIO and epi investigation spokesperson
- ❑ Establish a plan for rapid dissemination of information to key individuals/ institutions: FAX, Email, website on the internet (if capability exists)

Epidemiologic Investigation

A. Case Finding

- ❑ Establish plans/ capacity to receive a large number of incoming telephone calls
- ❑ Develop telephone intake form [See Appendix J]
- ❑ Identify individuals available to perform telephone intake duties
- ❑ Identify potential reporting sources (persons/ facilities) to receive case definition
- ❑ Establish a plan for rapid dissemination of case definition to potential reporting sources

B. Case Interviews

- ❑ Obtain epi-investigation syndromic questionnaires [See Appendix I]
- ❑ Identify personnel available to conduct case interviews
- ❑ Establish a protocol for training case interviewers
- ❑ Obtain template outbreak disease-specific investigation questionnaires [See Appendix J]

C. Data Analysis

- ❑ Obtain template database for data entry
- ❑ Assure Epi Info software is installed on data entry computers

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

- ❑ Identify personnel available for data entry
- ❑ Identify personnel with skills to perform descriptive and analytic epidemiologic analysis
- ❑ Develop/ obtain data analysis plan
- ❑ Develop/ obtain outbreak investigation monitoring tool [See Appendix L]

Contact Tracing

- ❑ Establish a system for locating contacts and familiarize personnel with contact tracing protocol(s)
- ❑ Obtain Contact Tracing Forms [See Appendix M]
- ❑ Obtain contact management algorithms for diseases that are communicable from person-to-person [See Appendix N]
- ❑ Obtain treatment/ prophylaxis guidelines [See Medical Response Section of CDHS Bioterrorism Plan]
- ❑ Develop local drug and vaccine distribution plan
- ❑ Establish a system for daily monitoring of all contacts under surveillance [See Appendix O for master record form for contacts]

Public Health Recommendations

- ❑ Obtain treatment and prophylaxis recommendations for bioterrorist threat agents [See Medical Response Section of CDHS Bioterrorism Plan]
- ❑ Develop or obtain bioterrorist disease-specific fact sheets [See Medical Response Section of CDHS Bioterrorism Plan]
- ❑ Establish contact with key health care providers/ facilities and establish protocol for rapid dissemination of recommendations regarding treatment, prophylaxis, personal protective equipment, infection control, and isolation/ quarantine [See Medical Response Section of CDHS Bioterrorism Plan]

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX H: BIOTERRORISM EPIDEMIOLOGIC RESPONSE CHECKLIST

Local Health Department Bioterrorism Epidemiologic Response Checklist

Consultation / Confirmation

- ❑ Disease scenario meets the bioterrorist event definition

Laboratory Confirmation

- ❑ Lab specimens are en route to the local public health laboratory/ Laboratory Response Network

Notification

- ❑ California Dept. of Health Services, Division of Communicable Disease Control (CDHS/DCDC)
  510-540-2566 (regular business hours)
  1-800- 590-3018 (pager for evenings, weekends, holidays)
  1-510-540-2308 (security guard can contact DCDC DOD at home and/or via pager)

- ❑ OES Warning Center 916-262-1621 (24 hours, 365 days/year)

- ❑ FBI 310-477-6565 (Los Angeles Division)
  916-481-9110 (Sacramento Division)
  619-565-1255 (San Diego Division)
  415-553-7400 (San Francisco Division)

- ❑ Local Health Dept. (LHD) Internal Notification Network

Coordination

- ❑ Epi personnel identified for investigation
- ❑ Additional epi personnel support requested (other LHD, CDHS)
- ❑ Joint command established with CDHS
- ❑ Investigation activities coordinated with FBI

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

Communication

- ❑ Epi investigation spokesperson identified
- ❑ Communication protocol established between epi investigation spokesperson and Public Information Officer (PIO)

Epidemiologic Investigation

- ❑ Hypothesis-generating interviews conducted
- ❑ Preliminary epidemiologic curve generated
- ❑ Case definition established

A. Case finding

- ❑ Telephone hotline established
- ❑ Telephone intake form distributed
- ❑ Case definition disseminated to potential reporting sources
    - Hospitals
    - Physicians
    - Laboratories
    - EMS
    - Coroner
    - Media

B. Case interviews

- ❑ Interviewers trained
- ❑ Uniform multi-jurisdictional outbreak investigation form(s) obtained

C. Data Analysis

- ❑ Uniform multi-jurisdictional database template for data entry obtained
- ❑ Epidemiologic curve generated
- ❑ Cases line-listed

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

- ❑ Case descriptive epidemiology completed
  - Age
  - Gender
  - Illness onset
  - Clinical profile
  - % Laboratory confirmed
  - Hospitalization rate
  - Case fatality rate
  - Case geographic distribution mapped (GIS mapping if available)

- ❑ Analytic epidemiology completed
  - Disease risk factors identified
  - Mode of transmission identified
  - Source of transmission identified
  - Population at continued risk identified

Contact Tracing

- ❑ Contact tracing forms distributed
- ❑ Health education materials available
- ❑ Contact management triage algorithm reviewed with staff
- ❑ Treatment/ prophylaxis guidelines available
- ❑ Treatment/ prophylaxis distribution plan in place
- ❑ System in place for locating contacts
- ❑ Tracking system in place to monitor contacts' trends/ gaps

Laboratory

- ❑ Establish point of contact (POC) at appropriate Level A and/ or Level B public health laboratory to refer queries regarding specimen packaging, storage and shipping guidelines in a potential bioterrorist event [See Laboratory Section of CDHS Bioterrorism Plan]

Public Health Recommendations

- ❑ See Medical Response Section of the CDHS Bioterrorism Plan

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX I: BIOTERRORISM SYNDROMIC EPIDEMIOLOGIC INVESTIGATION QUESTIONNAIRES:

Fever/Rash, Gastrointestinal, Neurologic, and Respiratory

(See Enclosure 4 at the back of this document)

Four template syndromic epidemiologic investigation questionnaires (fever/rash, gastrointestinal, neurologic, and respiratory) have been developed for use in hypothesis-generating interviews with the initial cases in an outbreak suspicious for bioterrorism. In outbreak situations where the etiologic agent for the illness has not been identified, a broad array of exploratory clinical and exposure questions may be useful in identifying the causal agent and possible modes and locations of exposure. Using the syndromic questionnaires to interview a few of the earliest cases, investigators will explore differential diagnoses and potential modes of exposure for the illness.

Information collected from the hypothesis-generating interviews of the earliest cases will be used to create a more focused disease-specific, outbreak-specific uniform questionnaire for the epidemiologic investigation. A template database will also be developed in advance and modified at the time of the event. In a multi-jurisdictional outbreak, local and state epidemiologists will coordinate the modification of the questionnaires and databases.

APPENDIX J: CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) EPIDEMIOLOGIC INVESTIGATION QUESTIONNAIRES (DISEASE-SPECIFIC)

(See Enclosure 5 at the back of this document))

APPENDIX K: CALIFORNIA DEPARTMENT OF HEALTH SERVICES (CDHS) TELEPHONE INTAKE FORM

The first part of the form includes basic information about the caller and the purpose of the call and could be completed by personnel answering the health department hotlines.

The second part of the form (the intake information section) could be administered to possible cases (or their proxies) and exposed persons by trained public health staff. The purpose of this section of the form is to facilitate the classification of persons as possible cases, possible exposed persons, possible case contacts, ill persons but unlikely cases, non-ill persons with no known exposures, or other. (This part of the form could also be used at patient referral centers to help differentiate between cases, exposed persons and the worried well.)

The definition of an exposure must be determined at the time of the event with information from the epidemiologic and criminal investigations.

Definitions for contacts vary by disease as described in Table 1.

Table 1: Contact tracing guidelines (subject to revision upon release of CDC agent-specific guidelines)

SMALLPOX	PRIMARY PNEUMONIC PLAGUE	VIRAL HEMORRHAGIC FEVER (VHF)
A person who has been in the same household as the infected individual or who has been in face-to-face contact with the patient after the onset of fever*. Face-to-face contact is defined as contact with a patient at less than 2 meters (6.5 ft).	A person having household, hospital or other close contact with persons with primary pneumonic plague from the onset of symptoms through completion of 48 hours of appropriate antibiotic therapy. Close contact is defined as contact with a patient at less than 2 meters (6.5 ft).	A person having had physical contact with a case or the body fluids of a case within 3 weeks after the onset of illness. Physical contact includes sharing the same room/ bed, caring for the patient, touching body fluids, testing patient laboratory specimens.

* It may be necessary to locate all face-to-face contacts with the case up to 17 days prior to the case's onset of fever for epidemiologic purposes (e.g., to locate all persons who might have been exposed to a common source and who may also be ill or incubating infection).

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

Possible cases could be referred directly for treatment; possible exposed persons and case contacts who are not ill could be referred for prophylactic treatment and/or vaccination; and others could be referred to information sources (e.g., information hotlines, web sites). Information about those identified as possible cases or exposed persons would be given to the epi-investigation team for immediate follow-up. Information about those identified as contacts would be given to the contact follow-up team for action.

Telephone Intake Form

1. Date: ___/___/___ 2. Time: __:__ AM/PM 3.Name of person receiving call:_____
mm dd yy

4. Name of caller: _____ 5. Tel. No. of caller:( )____-_____
Last First Middle

6. Caller representing:
   a. self (private citizen)
   b. patient caretaker/friend or family member
   c. health care provider
   d. health care facility (specify:_____)
   e. laboratory (specify:_____)
   f. health department specify:_____)
   g. law enforcement (specify:_____)
   h. media (specify:_____)
   i. other (specify:_____)

7. Reason for call (circle all that apply):
   a. report a case (record name and contact information in items 9-18 below)
   b. report possible exposure to *[the biological agent]* (record name and contact information in items 9-18 below)
   c. report contact to a case (record name and contact information in items 9-18 below)
   d. obtain information about:_____
   e. returning a telephone call from:_____
   f. other (specify:_____)

8. Action taken: a. Call transferred to: _____
Last name First Middle
   b. Message taken/needs follow-up call
   c. Other (specify:_____)

****

Intake Information for Possible Cases and Exposed Persons

9. Name: _____ 10. DOB:___/___/___
Last First Middle mm dd yy

11. (____) - _____ 12. (____) _____ 13. (____) - _____ 14. E-mail:_____
Home phone number **Business** phone number **Alternate** phone number (cellular phone, pager) (if available)

15._____
Home address: street apt.# city county state zip code

16. _____ 17. _____
Name of employer Occupation

18. _____
Work address: street suite# city county state zip code

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

19. Symptoms of illness (check all that apply)? **Yes** **No** (If no, skip to Item 20)

□ fever	□ difficulty breathing	□ abdominal pain	□ rash
□ chills	□ cough	□ nausea	□ blurred vision
□ muscle aches	□ sputum production	□ vomiting	□ droopy eyelids
□ headache	□ coughing blood	□ diarrhea	□ difficulty speaking
□ severe fatigue	□ chest pain	□ difficulty swallowing	

20. Had high-risk exposure for bioterrorist attack? **Yes** **No** (If no, skip to Item 21)
[modify this question at the time of investigation to define what are suspected high-risk exposures, e.g., location/date/time of release, contaminated food or water]
Specify:_____

21. Had contact with an ill person with symptoms of *[biological agent]*? **Yes** **No**
(if no, skip to Item 36; if yes, complete Items 22-35 about case and nature of contact)

22. Name of case/ill person: _____ 23. DOB: ___/___/___
Last First Middle mm dd yy

24. (____) - _____ 25. (____) - _____ 26. (____) - _____ 27. E-mail:_____
Home phone number **Business** phone number **Alternate** phone number (cellular phone, pager) (if available)

28._____
Home address: street apt.# city county state zip code

29. _____ 30. _____
Name of employer Occupation

31. _____
Work address: street suite# city county state zip code

32. Date case became ill, if known: ____/____/____
mm dd yy

33. Type of contact with case: **household** **close/face-to-face** (within 6 ft./ 2 meters) **other** (specify)_____

34. Date of **last** contact with case: ____/____/____ 34. Duration of contact with case:____
mm dd yy

35. Location of contact with case: _____
Street address City County State

36. Classification and follow-up action:
   a. **Possible case** - case referred for medical treatment and to epi team for interview
   b. **Possible exposure** - exposed person referred for prophylaxis and to epi team for interview
   c. **Possible contact to case** - contact referred for prophylaxis and information routed to BOTH contact management team for contact follow-up AND epi team for case follow-up
   d. **Ill but unlikely to be a case** - ill person referred for medical treatment and information routed to epi team for evaluation
   e. **Not ill, no exposures identified** - referred to medical information website/hotline
   f. **Other** (specify) _____

37. Interviewer for Items 9-36:_____
Last Name First Middle

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX L-1: OUTBREAK INVESTIGATION MONITORING TOOL FORM

LINE LISTING OF CONFIRMED CLUSTERS, (*Name of biological agent)* OUTBREAK, Jurisdiction X – Month, Day, Year										
Event/ Cluster name or ID#	**Location & date cluster identified**	**# At risk (if known or highly suspected place of exposure identified)**	**# Interviewed**	**# Cases**	**# Lab-confirmed cases**	**RR or OR, Suspected Exposure 1 (95% CI or p value**	**RR or OR, Suspected Exposure 2 (95% CI or p value)**	**RR or OR, Suspected Exposure 3 (95% CI or p value)**	**Key staff contact Telephone #**	**Disposition of cases**
Total # of cases: Total # of laboratory-confirmed cases:										

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX L-2: OUTBREAK INVESTIGATION MONITORING TOOL FORM

OUTBREAK—DATA SUMMARY OF SUSPECT CASES & CLUSTERS—Month, Day, Year

Case or Cluster name & location	Date notified of case or cluster (mm/dd/yy)	# At risk (if known or highly suspected venue of exposure identified)	# Ill	Date of illness onset, (index) case (mm/dd/yy)	# Lab-tested	Suspected Exposure 1 (# exposed/ # ill)	Suspected Exposure 2 (# exposed/ # ill)	Suspected Exposure 3 (# exposed/ # ill)	Suspected Exposure 4 (# exposed/ # ill	Key staff contact Telephone #

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX M: CONTACT TRACING FORM: LIST OF CASE'S CONTACTS

Date of Case Interview: ____/____/____ (MM DD YY)

Name of Interviewer: _____

ID # of Interviewer: _____

Case ID # _____ **Name of Case:** _____ (Last First Middle) **Onset of case illness:** ____/____/____ (Month Date(s) Year)

Contact #1.

_____ Last name | First | Middle

____/___/____ Date of last contact (MM/DD/YY)

1 2 Mode of contact (Circle one) 1=Face-to-face 2=Household

_____ Location of Contact | City | State

(____)____-_____ Contact **home** phone number

(____)____-_____ Contact **work** phone number

(____)____-_____ Contact **alternate** phone number (cellular phone, pager)

E-mail address: _____ (if available)

_____ Contact **home** address | Apt. # | City | County | State | ZIP Code

_____ Contact **work** address | Suite # | City | County | State | ZIP Code

Comments: _____

Contact #2.

_____ Last name | First | Middle

____/___/____ Date of last contact MM/DD/YY)

1 2 Mode of contact (Circle one) 1=Face-to-face 2=Household

_____ Location of Contact | City | State

(____)____-_____ Contact **home** phone number

(____)____-_____ Contact **work** phone number

(____)____-_____ Contact **alternate** phone number (cellular phone, pager)

E-mail address: _____ (if available)

_____ Contact **home** address | Apt. # | City | County | State | ZIP Code

_____ Contact **work** address | Suite # | City | County | State | ZIP Code

Comments: _____

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX M: CONTACT TRACING FORM: LIST OF CASE'S CONTACTS

Case ID # _____ Name of Case: _____
Last First Middle

Contact #____

_____ ____/___/____ **1 2** _____
Last name First Middle Date of last contact (MM/DD/YY) Mode of contact (Circle one) 1=Face-to-face 2=Household Location of Contact City State

(____)____-_____ (____)____-_____ (____)____-_____ E-mail address: _____
Contact **home** phone number Contact **work** phone number Contact **alternate** phone number (cellular phone, pager) (if available)

_____
Contact **home** address Apt. # City County State ZIP Code

_____
Contact **work** address Suite # City County State ZIP Code

Comments:_____

Contact #_____

_____ ____/___/____ **1 2** _____
Last name First Middle Date of last contact (MM/DD/YY) Mode of contact (Circle one) 1=Face-to-face 2=Household Location of Contact City State

(____)____-_____ (____)____-_____ (____)____-_____ E-mail address: _____
Contact **home** phone number Contact **work** phone number Contact **alternate** phone number (cellular phone, pager) (if available)

_____
Contact **home** address Apt. # City County State ZIP Code

_____
Contact **work** address Suite # City County State ZIP Code

Comments: _____

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX M-1: INDIVIDUALS PNEUMONIC PLAGUE CONTACT* SURVEILLANCE FORM

*A plague contact is a person having household, hospital or other close (<2 meters/6.5ft) contact with persons with pneumonic plague from the onset of symptoms through completion of 48 hours of appropriate antibiotic therapy

Case ID # _____ Location of contact with case _____ Case onset of illness ____/____/____ MM DD YY

Name of Case: _____ Date of last contact with case ___/___/___
Last First Middle MM DD YY

Contact ID # ____

_____ DOB:___/___/___ Sex:___
Contact Last Name First Name Middle Name MM DD YY

(_____) - _____ (_____) - _____ (_____) - _____ E-mail address: _____
Home phone number **Business** phone number **Alternate** phone number (Cellular phone, pager) (if available)

_____
Home street address Apt. # City County State ZIP Code

Occupation: _____ Employer: _____

_____
Business address Suite # City County State ZIP Code

Assessment			**Temp** °F	**Signs and Symptoms** 1=yes, 2=no (unless otherwise specified)							**Drugs taken since last contact**	**Contact Disposition**	**Contacted by**
Date MM/DD	Time hh/mm	Type 1=visual 2=phone		Fever** 1=yes (> 100.4 ºF/ 38 ºC) 2=no	Cough	Sputum 0=none 1=bloody 2=yellow 3=clear	Short-ness of breath	Nausea or vomiting	Diarrhea	Abdominal pain	0=none 1=doxycycline 2=ciprofloxacin 3=chloramphenicol 4=refused prophylaxis 5=other (List all)	1= fever watch 2=prophylaxis 3=droplet precaution + prophylaxis 4=refer for tx 5=quarantine (List all that apply)	

** Contacts should receive antibiotic prophylaxis for 7 days and measure temperature twice daily for 7 days after last exposure to case. In case of temperature >100.4 or new cough, place in respiratory droplet isolation and refer for treatment with parenteral gentamicin or streptomycin.

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

Assessment			**Temp** ºF	**Signs and Symptoms** 1=yes, 2=no (unless otherwise specified)							**Drugs taken since last contact**	**Contact Disposition**	**Contacted by**
Date MM/DD	Time hh/mm	Type 1=visual 2=phone		Fever** 1=yes (> 100.4 ºF/ 38 ºC) 2=no	Cough	Sputum 0=none 1=bloody 2=yellow 3=clear	Short-ness of breath	Nausea or vomiting	Diarrhea	Abdominal pain	0=none 1=doxycycline 2=ciprofloxacin 3=chloramphenicol 4=refused prophylaxis 5=other (List all)	1= fever watch 2=prophylaxis 3=droplet precaution + prophylaxis 4=refer for tx 5=quarantine (List all that apply)	

** Contacts should receive antibiotic prophylaxis for 7 days and measure temperature twice daily for 7 days after last exposure to case. In case of temperature >100.4 or new cough, place in respiratory droplet isolation and refer for treatment with parenteral gentamicin or streptomycin.

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX M-2: INDIVIDUAL SMALLPOX CONTACT* SURVEILLANCE FORM

*A smallpox contact is a person who has been in the same household as the infected individual or who has been In face-to-face (< 2 meters/6.5 ft) contact with the patient after the onset of fever.

Case ID # _____ Location of contact with case _____ Case onset of illness ____/____/____
Name of Case: _____ City County MM DD YY
Last First Middle Date of last contact with case ____/____/____
MM DD YY

Contact ID # ____

_____ DOB:___/___/___ Sex:___
Contact Last Name First Middle MM DD YY

(____) - (____) - (____) - E-mail address: _____
Home phone number **Business** phone number **Alternate** phone number (if available)
(Cellular phone, pager)

_____
Home street address Apt. # City County State ZIP Code

Occupation: _____ Employer: _____

_____
Business address Suite # City County State ZIP Code

Date Vaccinated: ____/____/____ Vaccine Lot#: _____
MM DD YY

Vaccinated By: _____ **AND/OR** By: _____ Health Department
Last First

Assessment			**Temp** ºF	**Signs and Symptoms** 1=yes, 2=no							**Vaccination Site** 1=no rxn 2=redness 3=induration 4=papules 5=ulcer 6=vaccine adverse rxn*** ***Describe below	**Drugs taken Since last contact**	**Contact disposition** 1=fever watch 2= home isolation 3=quarantine (List all that apply)	**Contacted By**
Date MM/DD	Time hh/mm	Type 1=visual 2=phone		Fever** 1=yes (> 100.4ºF/ 38ºC) 2=no	Rash	Malaise	Cough	Prostration	Headache	Backache				

**Contacts should check their temperature twice daily for 18 days after last exposure to the case. In case of temperature > 100.4°F on two consecutive readings, place in home isolation. If no rash develops within 5 days, contact may be released from isolation.

***Vaccine adverse reaction/ Comments: _____

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

Assessment			**Temp** ºF	**Signs and Symptoms** 1=yes, 2=no							**Vaccination Site** 1=no rxn 2=redness 3=induration 4=papules 5=ulcer 6=vaccine adverse rxn*** ***Describe below	**Drugs taken Since last contact**	**Contact disposition** 1=fever watch 2= home isolation 3=quarantine (List all that apply)	**Contacted By**
Date MM/DD	Time hh/mm	Type 1=visual 2=phone		Fever** 1=yes (> 100.4ºF or 38ºC) 2=no	Rash	Malaise	Cough	Prostration	Headache	Backache				

**Contacts should check temperature twice daily for 18 days after last exposure to the case. In case of temperature > 100.4°F on two consecutive readings, place in home isolation. If no rash develops within 5 days, contact may be released from isolation.

***Vaccine adverse reaction/ Comments: _____

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX M-3: INDIVIDUAL VIRAL HEMORRHAGIC FEVER (VHF) CONTACT* SURVEILLANCE FORM

* VHF contact is a person who has had physical contact with a case or the body fluids of a case within 3 weeks after the case's onset of illness. Physical contact includes sharing the same room/bed, caring for the patient, touching body fluids, or testing patient laboratory specimens.

Case ID # _____
Name of Case: _____
Last First Middle

Location of contact with case _____
Date of last contact with case ___/___/___
MM DD YY

Case onset of illness ____/____/____
MM DD YY

Contact ID # ____

_____ DOB:___/___/___ Sex:___
Contact Last Name First Name Middle MM DD YY

(_____) - _____ **Home** phone number

(_____) - _____ **Business** phone number

(_____) - _____ **Alternate** phone number (Cellular phone, pager)

E-mail address: _____ (if available)

_____
Home street address Apt. # City County State ZIP Code

Occupation: _____ Employer: _____

_____
Business address Suite # City County State ZIP Code

Assessment			**Temp** °F	**Signs and Symptoms** 1=yes, 2=no (unless otherwise specified)				**Drugs taken since last contact**	**Contact Disposition**	**Contacted by**
Date MM/DD	Time hh/mm	Type 1=visual 2=phone		Fever** 1=yes (> 100.4 °F/ 38 ºC) 2=no	Unexplained bleeding from Mucous membranes Skin Conjunctiva GI system (vomiting blood; bloody stool)	Extreme weakness	Maculopapular rash	0=None 1=Ribavirin (Lassa Fever) 2=other (list all)	1= fever watch 2= refer for tx and isolation	

**Contacts should check temperature at least twice daily for at least 3 weeks after last exposure to the case. In case of temperature > 100.4°F, hospitalize immediately in strict isolation facilities.

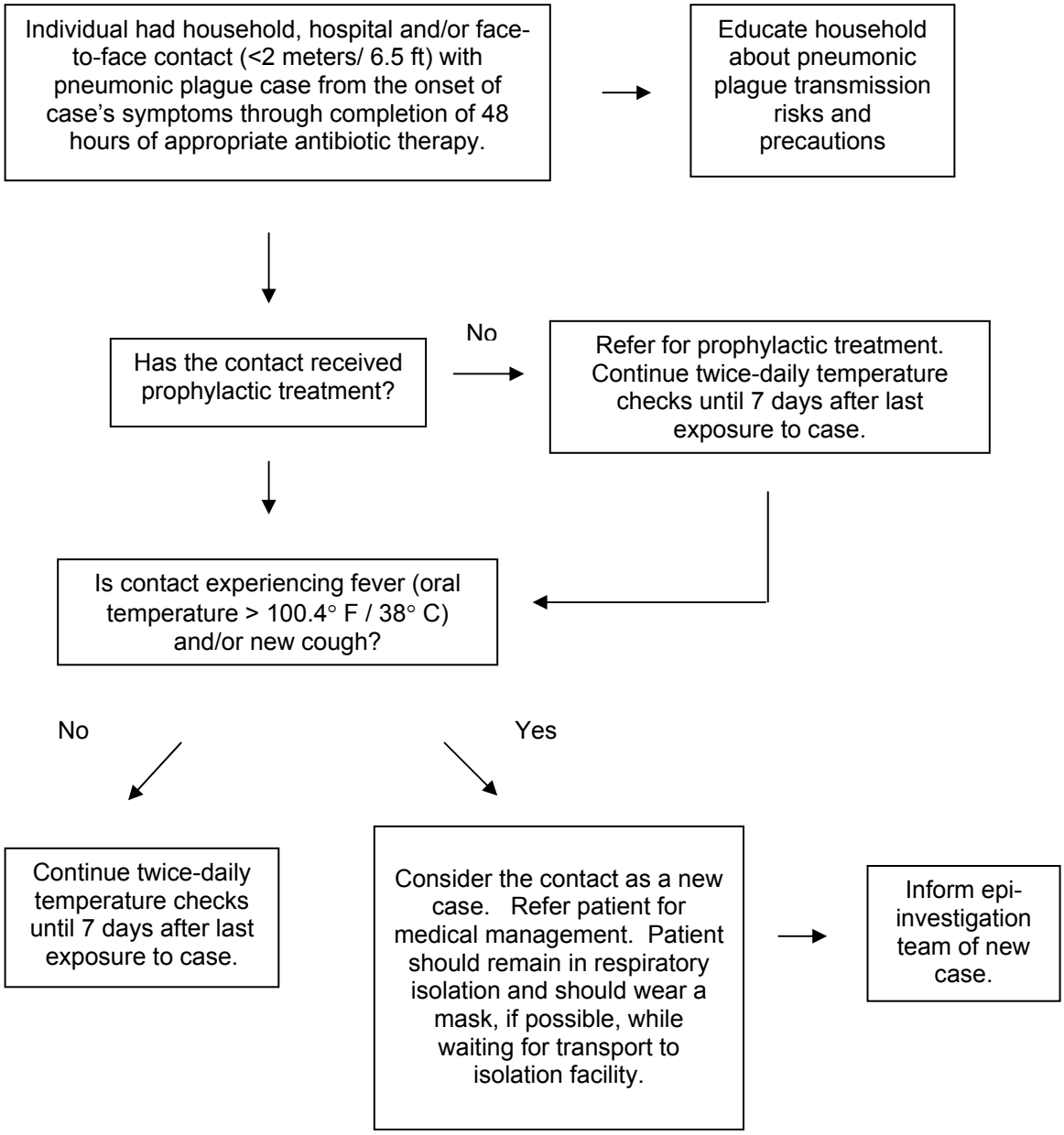
SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

Assessment			**Temp** °F	**Signs and Symptoms** 1=yes, 2=no (unless otherwise specified)				**Drugs taken since last contact**	**Contact Disposition**	**Contacted by**
Date MM/DD	Time hh/mm	Type 1=visual 2=phone		Fever** 1=yes (> 100.4 °F/ 38 ºC) 2=no	Unexplained bleeding from Mucous membranes Skin Conjunctiva GI system (vomiting blood; bloody stool)	Extreme weakness	Maculopapular rash	0=None 1=Ribavirin (Lassa Fever) 2=other (list all)	1= fever watch 2= refer for tx and isolation	

*Contacts should check temperature at least twice daily for at least 3 weeks after last exposure to the case. In case of temperature > 100.4°F, hospitalize immediately in strict isolation facilities.

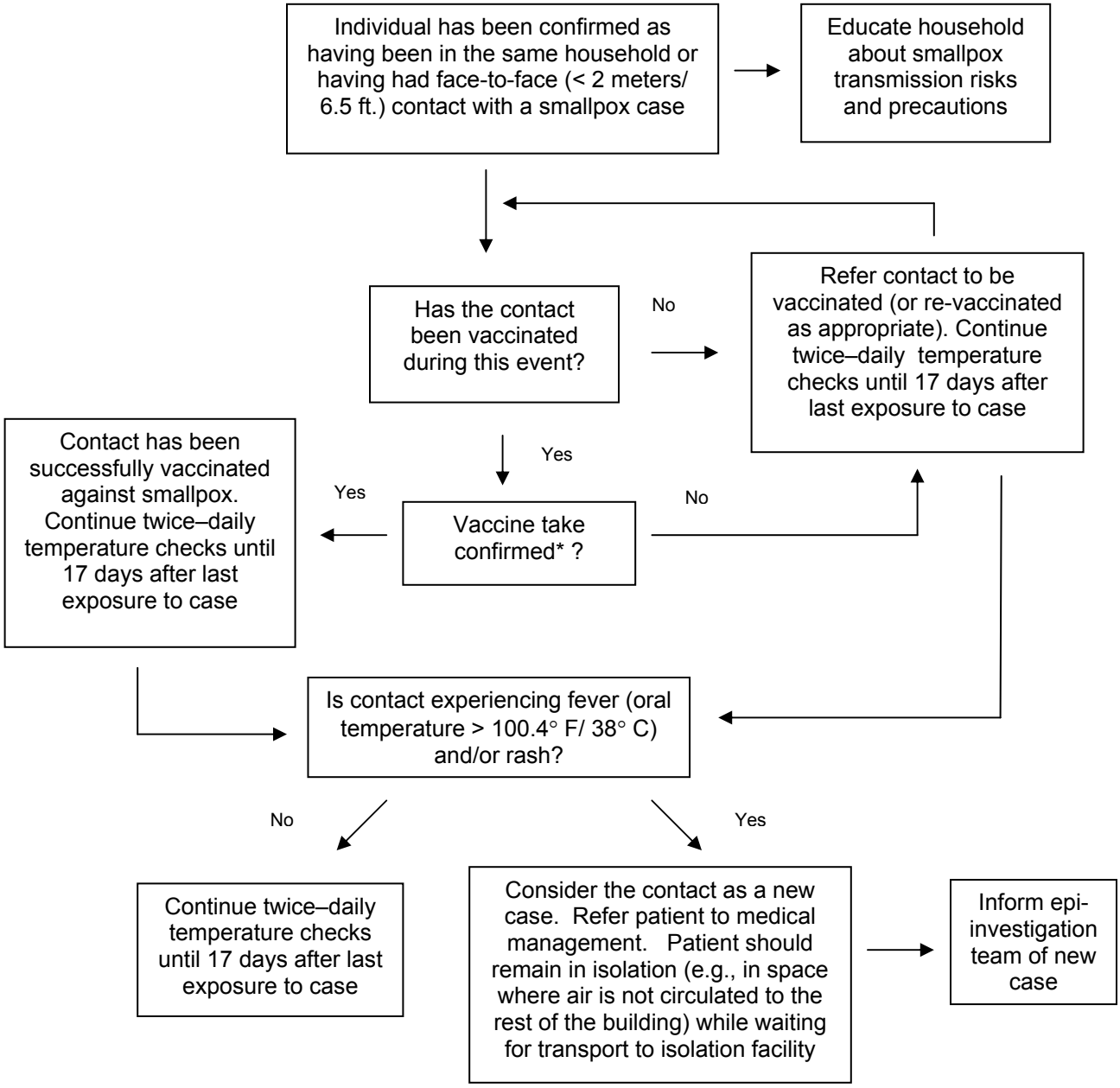
SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX N-1: PNEUMONIC PLAGUE CONTACT MANAGEMENT ALGORITHM



SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX N-2: SMALLPOX CONTACT MANAGEMENT ALGORITHM



* In a typical successful primary vaccination response, a red papule appears at the vaccination site after 3 days and becomes vesicular on about the fifth day. By the seventh day, it becomes whitish, umbilicated, and multilocular, containing turbid lymph and surrounded by an erythematous areola that may continue to expand for 3 more days. Regional lymphadenopathy and fever may be present. The pustule gradually dries, leaving a dark crust, which normally falls off after about 3 weeks.

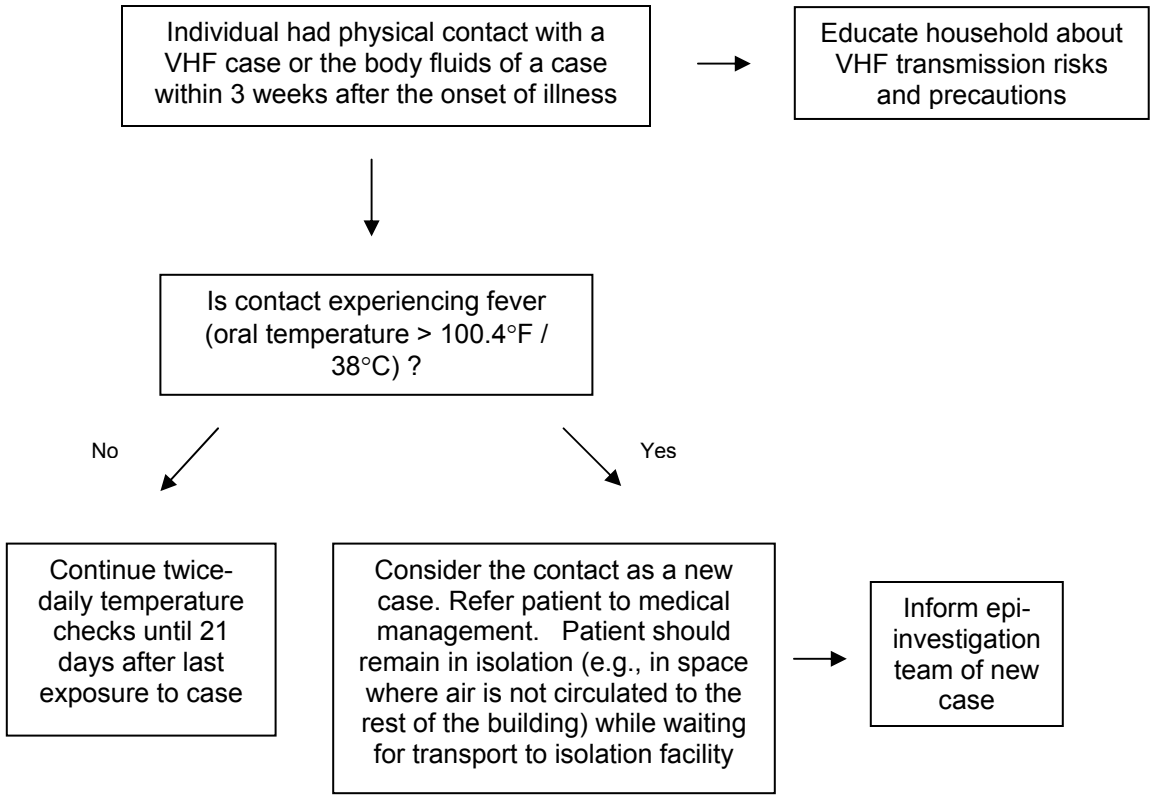
A response that reaches a peak in erythema within 48 hours represents a hypersensitivity reaction and does not signify that growth of the vaccinia virus has occurred. Persons exhibiting such a reaction should be revaccinated.

A successful vaccination for those with partial immunity may manifest a gradient of responses, ranging from what appears to be a primary vaccination response, to an accelerated reaction with little more than a papule surrounded by erythema that reaches a peak between 3 and 7 days.

(Adapted from JAMA Consensus Statement: Smallpox as a Biological Weapon, Medical and Public Health Management, 1999.)

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX N-3: VIRAL HEMORRHAGIC FEVER (VHF) CONTACT MANAGEMENT ALGORITHM



SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX O-1: PNEUMONIC PLAGUE CONTACT SURVEILLANCE FORM

Today's Date ___/___/___

A B C D E F G H I J

Contact ID	Recommended surveillance period (7 days)* (mm/dd/yy – mm/dd/yy)	Date surveillance begun** (mm/dd/yy)	Last name	First name	Middle name	Age	DOB (mm/dd/yy)	Sex	Contact Disposition (Today) 1= fever watch 2=prophy 3=droplet precaution+ prophy 4=refer for tx 5=quarantine (List all that apply)	Dates and Temp (°F) under surveillance*** 1	2	3	4	5	6	7
example	04/01/01 04/08/01	04/02/01	Smith	John	Doe	20	01/01/80	M	1	2 AM PM	3	4	5	6	7	8

*The recommended surveillance period for a pneumonic plague contact is for 7 days following contact's last contact with a case. Record the date of contact's last contact with case, then the date 7 days after last contact (Column B).
**"Surveillance begun" date is the first day the smallpox contact is successfully enrolled by public health officials to be followed for surveillance (Column C).
***Record "surveillance begun" date (Column C) in the top box of column 1, then enter sequential dates to represent the full surveillance period in top box of columns 2-7. Record twice-daily temperatures in boxes under the date.

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

Today's Date ___/___/___

A B C D E F G H I J

Contact ID	Recommended surveillance period (7 days)* (mm/dd/yy – mm/dd/yy)	Date surveillance begun** (mm/dd/yy)	Last name	First name	Middle name	Age	DOB (mm/dd/yy)	Sex	Contact Disposition (Today) 1= fever watch 2=prophy 3=droplet precaution+ prophy 4=refer for tx 5=quarantine (List all that apply)	Dates and Temp (°F) under surveillance*** 1	2	3	4	5	6	7

*The recommended surveillance period for a pneumonic plague contact is for 7 days following contact's last contact with a case. Record the date of contact's last contact with case, then the date 7 days after last contact (Column B).
**"Surveillance begun" date is the first day the smallpox contact is successfully enrolled by public health officials to be followed for surveillance (Column C).
***Record "surveillance begun" date (Column C) in the top box of column 1, then enter sequential dates to represent the full surveillance period in top box of columns 2-7.
Record twice-daily temperatures in boxes under the date.

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX O-2: SMALLPOX MASTER CONTACT SURVEILLANCE FORM

Today's Date ___/___/___

A B C D E F G H I J

Con-tact ID	Recom-mended surveill-ance period (17 days)* (mm/dd/yy – mm/dd/yy)	Date surveil-lance begun** (mm/dd/yy)	Last Name	First Name	Middle Name	Age	DOB (mm/dd/yy)	Sex	Contact disposition (Today) 1=fever watch 2= home isolation 3=quaran-tine (List all that apply)	Dates and Temperature (ºF) under surveillance*** 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Ex.	04/01/01 - 04/18/01	04/05/01	Smith	John	Doe	20	01/01/80	M	1	5	6	7	8	9	10	11	12	13	14	15	16	17	18	X	X	X
										AM																
										PM																

*The recommended surveillance period for a smallpox contact is for 17 days following contact's last contact with a case. Record the date of contact's last contact with case, then the date 17 days after last contact (Column B).

**"Surveillance begun" date is the first day the smallpox contact is successfully enrolled by public health officials to be followed for surveillance (Column C).

*****Record "surveillance begun" date (Column C) in the top box of column 1, then enter sequential dates to represent the full surveillance period in top box of columns 2-17. Record twice-daily temperatures in boxes under the date.**

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

Today's Date ___/___/___

A B C D E F G H I J

Con-tact ID	Recom-mended surveill-ance period (17 days)* (mm/dd/yy – mm/dd/yy)	Date surveil-lance begun** (mm/dd/yy)	Last Name	First Name	Middle Name	Age	DOB (mm/dd/yy)	Sex	Contact disposition (Today) 1=fever watch 2= home isolation 3=quaran-tine (List all that apply)	Dates and Temperature (ºF) under surveillance***																	
										1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

*The recommended surveillance period for a smallpox contact is for 17 days following contact's last contact with a case. Record the date of contact's last contact with case, then the date 17 days after last contact (Column B).

**"Surveillance begun" date is the first day the smallpox contact is successfully enrolled by public health officials to be followed for surveillance (Column C).

***Record "surveillance begun" date (Column C) in the top box of column 1, then enter sequential dates to represent the full surveillance period in top box of columns 2-17. Record twice-daily temperatures in boxes under the date.

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX O-3: VIRAL HEMORRHAGIC FEVER (VHF) MASTER CONTACT SURVEILLANCE FORM

Today's Date ___/___/___

A	B	C	D	E	F	G	H	I	J	Dates and Temperature (ºF) under surveillance***																						
Con-tact ID	Recom-mended surveil-lance period (21days)* (mm/dd/yy – mm/dd/yy)	Date surveil-lance begun** (mm/dd/yy)	Last Name	First Name	Middle Name	Contact disposi-tion (Today) 1= fever watch 2= refer for tx and isolation (List all that apply)	Age	DOB (mm/dd/yy)	Sex	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Ex.	04/01/01 – 04/22/01	04/08/01	Smith	John	Doe	1	20	01/01/80	M	8 AM / PM	9	10	11	12	13	14	15	16	17	18	19	20	21	22	X	X	X	X	X	X

*The recommended surveillance period for a VHF contact is for 21 days following contact's last contact with a case. Record the date of contact's last contact with case, then the date 21 days after last contact (Column B).
**"Surveillance begun" date is the first day the smallpox contact is successfully enrolled by public health officials to be followed for surveillance (Column C).
***Record "surveillance begun" date (Column C) in the top box of column 1, then enter sequential dates to represent the full surveillance period in top box of columns 2-21. Record twice-daily temperatures in boxes under the date.

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

A	B	C	D	E	F	G	H	I	J

Con-tact ID	Recom-mended surveil-lance period (21days)* (mm/dd/yy – mm/dd/yy)	Date surveil-lance begun** (mm/dd/yy)	Last Name	First Name	Middle Name	Contact disposi-tion (Today) 1= fever watch 2= refer for tx and isolation (List all that apply)	Age	DOB (mm/dd/yy)	Sex	Dates and Temperature (ºF) under surveillance***																					
										1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

*The recommended surveillance period for a VHF contact is for 21 days following contact's last contact with a case. Record the date of contact's last contact with case, then the date 21 days after last contact (Column B).

**"Surveillance begun" date is the first day the smallpox contact is successfully enrolled by public health officials to be followed for surveillance (Column C).

***Record "surveillance begun" date (Column C) in the top box of column 1, then enter sequential dates to represent the full surveillance period in top box of columns 2-21. Record twice-daily temperatures in boxes under the date.

SOURCE: CALIFORNIA DEPARTMENT OF HEALTH SERVICES

APPENDIX Q: BIOTERRORISM REFERENCES (WEBSITES, DOCUMENTS, ETC.)

Bioterrorism-related web sites:

http://www.bt.cdc.gov/
CDC Bioterrorism Preparedness and Response Program

The Bioterrorism Preparedness and Response Program at the CDC is devoted to coordinating a public health response to a bioterrorist attack. This web site provides information about chemical and biological agents, press releases, training, contacts, and other important information relating to the public health aspects of bioterrorism preparedness and response.

http://www.apic.org/bioterror
APIC/CDC Bioterrorism Readiness Plan: A Template for Healthcare Facilities

Prepared by the Association for Professionals in Infection Control and Epidemiology (APIC) Bioterrorism Task Force and the CDC Hospital Infections Program Bioterrorism Working Group, this document is intended to be used as a reference tool for infection control (IC) professionals and healthcare epidemiologists in the development of practical and realistic response plans for healthcare facilities in preparation for a real or suspected bioterrorist attack.

ftp://ftp.cdc.gov/pub/Publications/mmwr/RR/RR4904.pdf
Biological and Chemical Terrorism: Strategic Plan for Preparedness and Response – Recommendations of the CDC Strategic Planning Working Group
MMWR. 2000; 49: RR-4.

Prepared by the CDC Strategic Planning Group, this strategic plan contains recommendations to reduce U.S. vulnerability to deliberate dissemination of biological or chemical agents by addressing the role of public health in preparedness planning, detection and surveillance, laboratory analysis, emergency response, and communication systems.

http://www.hopkins-biodefense.org
Johns Hopkins University Center for Civilian Biodefense Studies

The Johns Hopkins University Center for Civilian Biodefense Studies is a part of the Johns Hopkins Schools of Medicine and Public Health. The Center aims to raise consciousness and knowledge base regarding the medical and public health threats posed by biological weapons, and to foster the planning and preparation for response to possible bioterrorist attacks. This web site provides

information and web links to academic, scientific, and governmental sites related to bioterrorism.

http://www.cdc.gov/ncidod/eid/vol5no4/pdf/v5n4.pdf
The Journal of Emerging Infectious Diseases.1999;5(4): 491-592.

The Journal of Emerging Infectious Diseases is a peer-reviewed journal published by the National Center for Infectious Diseases of the CDC. This volume of EID is largely devoted to issues related to biological warfare.

http://ccc.apgea.army.mil/Documents/HandbookonBioCas/Handbook.htm
US Army Medical Research Institute of Infectious Diseases (USAMRIID) Medical Management of Biological Casualties Handbook

Published by the USAMRIID, the purpose of this Handbook is to provide concise supplemental reading material to assist in education of biological casualty management. The handbook contains information on biological agents, diagnosis, treatment, and prophylaxis.

http://chemdef.apgea.army.mil/
USAMRICD – U.S. Army Medical Research Institute for Chemical Defense

The U.S. Army Medical Research Institute for Chemical Defense is devoted to developing medical countermeasures to chemical warfare agents and to train medical personnel in the medical management of chemical casualties. This web site provides information about training, published materials, and links to other web sites about chemical terrorism, including a link to the Textbook of Military Medicine Medical Aspects of Chemical and Biological Warfare.

http://cns.miis.edu/
Center for Nonproliferation Studies, Monterey Institute for International Studies

The Monterey Institute is the world's largest non-governmental organization devoted to combating the spread of WMD. Web site materials, authored primarily by the Institute, are organized by geographical region, publication type, and subject (chemical and biological weapons, missiles, nuclear weapons, and treaties and regimes).

http://www.stimson.org/cwc/index.html
The Henry L. Stimpson Center Chemical and Biological Weapons Nonproliferation Project

The Chemical and Biological Weapons Nonproliferation Project of the Henry L. Stimson Center examines the panoply of issues associated with chemical and biological weapons, including treaties for threat control and reduction, weapons destruction technologies, and export controls. This web site offers materials developed specifically for the project, and is organized by geographical region and subject.

http://www.gao.gov/new.items/he00180.pdf
West Nile Virus Outbreak: Lessons for Public Health Preparedness.

The General Accounting Office (GAO) is the investigative arm of Congress. GAO examines the use of public funds, evaluates federal programs and activities, and provides analyses, options, recommendations, and other assistance to help the Congress make effective oversight, policy, and funding decisions. This report reviews the local, state, and federal public health response to the 1999 West Nile Virus Outbreak.

http://www.mssny.org/pub_health/Emergency_Primer.htm
The Medical Society of the State of New York. Public Health Emergencies: Quick Primer for Clinicians on Detecting Public Health Emergencies.

http://www.nysemo.state.ny.us/ICS/explain.htm
The New York State Emergency Management Office

This web site contains information about the Incident Command System (I.C.S) and the Standardized Emergency Management System (S.E.M.S.).

Bioterrorism-related published works:

Alibek K, Handleman S. Biohazard. New York, NY: Random House; 1999.

Arnon SS, Schechter R, Inglesby TV, et al. Botulinum Toxin as a Biological Weapon: Medical & Public Health Management. *JAMA. 2001;285:1059-1070.*

Bioterrorism Alleging Use of Anthrax and Interim Guidelines for Management -- United States, 1998. *MMWR*. 1999; 48(04): 69-74.

Chin J, ed. Control of Communicable Diseases Manual. Washington DC: APHA; 2000.

Christopher GW, Cieslak TJ, Pavlin JA, Eitzen EM. Biological Warfare: A Historical Perspective. *JAMA*. 1997; 278: 412-417.

Fine A, Layton M. Lessons from the West Nile Viral Encephalitis Outbreak in New York City, 1999: Implications for Bioterrorism Preparedness. *Clinical Infectious Diseases.* 2001;32:277-282.

Frantz DR, Jahrling PB, Friedlander AM, et al. Clinical Recognition and Management of Patients Exposed to Biological Warfare Agents. *JAMA*. 1997; 278:399-411.

Guillemin J. Anthrax: The Investigation of a Deadly Outbreak. Berkeley: The University of California Press; 1999.

Henderson DA, Inglesby TV, Bartlett JG, et al. Smallpox as a Biological Weapon: Medical & Public Health Management. *JAMA. 1999;281:2127-213.*

Henderson DA, Inglesby TV, O'Toole T. Implications of Pandemic Influenza for Bioterrorism Response. *Clinical Infectious Diseases*. 2000;31:1409-1413.

Hoffman RE, Norton JE. Lessons learned form a full-scale bioterrorism exercise. *The Journal of Emerging Infectious Diseases*.1999; 6(6): 652-653.

Inglesby TV, Henderson DA, Bartlett JG, et al. Anthrax as a Biological Weapon: Medical & Public Health Management. *JAMA. 1999;281:1735-1745.*

Inglesby TV, Henderson DA, Bartlett JG, et al. Plague as a Biological Weapon: Medical & Public Health Management. *JAMA. 2000;283:2281-2290*

Khan AS, Morse S, Lillibridge SR. Public-health preparedness for biological terrorism in the USA. The Lancet. 2000; 356:1179-1182.

Lederberg J, ed. Biological Warfare: Limiting the Threat. Cambridge: The MIT Press; 1999.

Meselson M, Guillemin J, High-Jones M, et al. The Sverdlovsk Anthrax Outbreak of 1979. *Science*. 1994; 266:1202-1208.

Zajtchuk R, Bellamy RF, eds. Textbook of Military Medicine: Medical Aspects of Chemical and Biological Warfare. Washington DC: Office of the Surgeon General, US Department of the Army; 1997.

State of California Documents:

The State of California Emergency Plan. Governor's Office of Emergency Services. May, 1998.

Authority and Responsibility of Local Health Officer in Emergencies and Disasters. California Department of Health Services, Emergency Preparedness Office. September 30, 1998.

The Local Planning Guidance on Terrorism Response: A Supplement to the Emergency Planning Guidance for Local Government. Governor's Office of Emergency Services. December, 1998.

The California Terrorism Response Plan: An Annex to the State Emergency Plan. Governor's Office of Emergency Services. March, 1999.

California Influenza Pandemic Response Plan. California Department of Health Services, Division of Communicable Disease Control, Immunization Branch. May, 2000.

Other bioterrorism-related documents:

Public Health Screening at U.S. Ports of Entry: A Guide for Federal Inspectors. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Infectious Diseases, Division of Quarantine. March, 2000.

APPENDIX R: LIST OF ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
BIDS	Border Infectious Diseases Surveillance (CDC)
BPRP	Bioterrorism Preparedness and Response Program (CDC)
BSERT	Bioterrorism Surveillance and Epidemiologic Response Team (DISB)
BT	Bioterrorism
CAHFSL	California Animal Health and Food Safety Laboratory System (CDFA)
CHS	California Center for Health Statistics
CCLHO	California Conference of Local Health Officers
CD	Communicable Disease
CDC	Centers for Disease Control and Prevention
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
CDHS	California Department of Health Services
CDHS DO	CDHS Duty Officer
CELDAR	California Electronic Laboratory Disease Alert and Reporting System
CISP	California Influenza Surveillance Project
DCDC	Division of Communicable Disease Control (CDHS)
DIS	Disease Investigations Section (DISB)
DISB	Disease Investigations and Surveillance Branch (DCDC)
DCDC DOD	DCDC Duty Officer of the Day (CDHS)
DNC	Democratic National Convention
EIP	Emerging Infections Program
EISO	Epidemic Intelligence Service Officer
ELR	Electronic Laboratory Reporting
EMSA	Emergency Medical Services Authority
Epi-X	Epidemic Information Exchange
EPO	Emergency Preparedness Office (CDHS)
ED	Emergency Department
EEE	Eastern Equine Encephalitis
EMS	Emergency Medical Services
ER	Emergency Room
FBI	Federal Bureau of Investigation
GIS	Geological Information System
HAN	Health Alert Network
HIV	Human Immunodeficiency Virus
HMO	Health Maintenance Organization
ICP	Infection Control Practitioner
ICU	Intensive Care Unit
ILI	Influenza Like Illness
LHD	Local Health Department
LLNL	Lawrence Livermore National Laboratory

LRN	Laboratory Response Network
MDL	Microbial Diseases Laboratory (DCDC)
MMRS	Metropolitan Medical Response System (USPHS)
NEDSS	National Electronic Disease Surveillance System
NETSS	National Electronic Telecommunications Systems for Surveillance
OES	Office of Emergency Services
OPA	Office of Public Affairs
PIO	Public Information Officer
POC	Point of Contact
PPE	Personal Protective Equipment
RHEACTS	Rapid Health Electronic Alert, Communications and Training System
RRT	San Diego Rapid Response Team
SLE	St. Louis Encephalitis
SSS	Surveillance and Statistics Section (DISB)
UCLA	University of California, Los Angeles
UNEX	Unexplained Illness and Death Project
USPHS	United States Public Health Service
VBDS	Vector-Borne Diseases Section (DISB)
VEE	Venezuelan Equine Encephalitis
VHF	Viral Hemorrhagic Fever
VPHS	Veterinary Public Health Section (DISB)
VRDL	Viral and Rickettsial Disease Laboratory (DCDC)
WEE	Western Equine Encephalitis

ENCLOSURE 4: UNSPECIFIED GASTROINTESTINAL ILLNESS

Case Investigation Form

ID NUMBER:_____ INTERVIEWER:_____

AGENCY:_____

DATE OF INTERVIEW:____/_____/_____

PERSON INTERVIEWED: □Patient □Other

If other, Name of person _____

Telephone contact _____- _____- _____

Describe relationship _____

DEMOGRAPHIC INFORMATION

LAST NAME: _____ FIRST NAME: _____

SEX: ❒ Male ❒ Female DATE OF BIRTH: ____/____/____ AGE____

RACE: ❒ White ❒ Black ❒ Asian ❒ Other, specify _____ ❒Unknown

ETHNICITY: ❒ Hispanic ❒ Non-Hispanic ❒ Unknown

HOME TELEPHONE: ( ) _____-_____

WORK/OTHER TELEPHONE: ( ) _____-_____

HOME ADDRESS STREET: _____

CITY:_____ STATE:_____ZIP:_____

EMPLOYED: ❒ Yes ❒ No ❒ Unknown

OCCUPATION:_____

WORKPLACE/SCHOOL NAME:_____

WORK/SCHOOL ADDRESS: STREET: _____ CITY: _____

STATE:_____ZIP:_____

HOW MANY PEOPLE RESIDE IN THE SAME HOUSEHOLD? _____

LIST NAME(S), AGE(S), AND RELATIONSHIPS (use additional pages if necessary):

Name					
Age					
Relationship					

CLINICAL INFORMATION (as documented in admission history of medical record or from case/proxy interview)

Chief Complaint: _____

Date of illness onset: ____/_____/_____

Which was experienced first:? ❒ Vomiting ❒ Diarrhea

Onset time: ____:_____ ❒AM ❒PM

Currently experiencing vomiting or diarrhea? ❒Yes ❒No ❒Unknown

Willing to provide stool specimen? ❒Yes ❒No ❒Unknown

Date of last day of illness with vomiting or diarrhea : ____ / ____ / ____

Time of last episode of vomiting or diarrhea: ____:____ ❒AM ❒PM

Total number of days of diarrhea: _____ days

Briefly summarize History of present illness:

_____

_____

SIGNS AND SYMPTOMS:

Nausea	❒Yes	❒No	❒Unknown
Vomiting	❒Yes	❒No	❒Unknown
Diarrhea	❒Yes	❒No	❒Unknown
If yes, maximum number of stools in a 24-hour period: _____			
Bloody diarrhea	❒Yes	❒No	❒Unknown
Abdominal pain/cramps	❒Yes	❒No	❒Unknown
Gas	❒Yes	❒No	❒Unknown
Loss of appetite	❒Yes	❒No	❒Unknown
Fever	❒Yes	❒No	❒Unknown
If yes, maximum temp: _____ ❒˚F ❒˚C			
Chills	❒Yes	❒No	❒Unknown
Headache	❒Yes	❒No	❒Unknown
Muscle aches	❒Yes	❒No	❒Unknown
Fatigue	❒Yes	❒No	❒Unknown
Constipation	❒Yes	❒No	❒Unknown
Weight loss	❒Yes	❒No	❒Unknown
If yes, pounds lost: _____lbs in _____ days			
Other symptoms/ abnormality	❒Yes	❒No	❒Unknown
If yes, describe_____			

PAST MEDICAL HISTORY:

Food allergies	❒Yes	❒No	❒Unknown
If yes, specify: _____			
Diabetes	❒Yes	❒No	❒Unknown
Malignancy:	❒Yes	❒No	❒Unknown
If yes, specify type: _____			
Currently on treatment:	❒Yes	❒No	❒Unknown
Currently pregnant	❒Yes	❒No	❒Unknown
HIV Infection	❒Yes	❒No	❒Unknown
Other Immunocompromising condition (e.g. renal failure, cirrhosis, chronic steroid use)	❒Yes	❒No	❒Unknown
If yes, specify disease or drug therapy:_____			
Colitis/inflammatory bowel disease	❒Yes	❒No	❒Unknown
Surgery to remove part of the stomach or intestines	❒Yes	❒No	❒Unknown
Other underlying condition(s):_____			
Prescription medications: _____			

SOCIAL HISTORY:

Current alcohol abuse:	❒Yes	❒No	❒Unknown
Past alcohol abuse:	❒Yes	❒No	❒Unknown
Current injection drug use	□Yes	□No	□Unknown
Past injection drug use	□Yes	□No	□Unknown
Current smoker	□Yes	□No	□Unknown
Former smoker	□Yes	□No	□Unknown
Other illicit drug use	□Yes	□No	□Unknown
If yes, specify:_____			

HOSPITAL INFORMATION:

Hospitalized? ❒Yes ❒No ❒Unknown

Name of hospital: _____

Date of admission: ____/____/_____ Date of discharge: ____/____/_____

Attending physician:

Last name: _____ First name: _____

Office telephone: ( )____-_____ Pager: ( )____-_____ Fax: ( )____-_____

DIAGNOSTIC STUDIES:

Test	Results of tests done on admission (___/___/___)	Abnormal test result at any time (specify date mm/dd/yy)
Hemoglobin (Hb)		(____/____/____)
Hematocrit (HCT)		(____/____/____)
Platelet (plt)		(____/____/____)
Total white blood cell (WBC)		(____/____/____)
WBC differential:		(____/____/____)
% granulocytes (PMNs)		(____/____/____)
% bands		(____/____/____)
% lymphocytes		(____/____/____)
Blood cultures	□ positive (specify_____) □ negative □ pending □ not done	□ positive (specify_____) □ negative □ pending □ not done (____/____/____)
Stool cultures	□ positive (specify_____) □ negative □ pending □ not done	□ positive (specify_____) □ negative □ pending □ not done (____/____/____)
Fecal white blood cells	□ positive □ negative □ pending □ not done	□ positive □ negative □ pending □ not done (____/____/____)

Test	Results of tests done on admission (___/___/___)	Abnormal test result at any time (specify date mm/dd/yy)
Stool ova and parasite exam	□ positive (specify_____) □ negative □ pending □ not done	□ positive (specify_____) □ negative □ pending □ not done (____/____/____)
Chest radiograph	□ normal □ unilateral, lobar/consolidation □ bilateral, lobar/consolidation □ interstitial infiltrates □ widened mediastinum □ pleural effusion □ abnormal (describe:_____) □ not done	□ normal □ unilateral, lobar/consolidation □ bilateral, lobar/consolidation □ interstitial infiltrates □ widened mediastinum □ pleural effusion □ abnormal (describe:_____) □ not done
Other tests	□ normal □ abnormal (describe:_____ _____) □ not done	□ normal □ abnormal (describe:_____ _____) □ not done (____/____/____)
Other pertinent study results (e.g., toxin assays)		(____/____/____)

INFECTIOUS DISEASE CONSULT: □Yes □No □Unknown

Date:___/___/___

Name of physician: Last Name _____ First Name _____

Telephone or beeper number ( ) _____ - _____

HOSPITAL TREATMENT:

a. antibiotics □Yes □No □Unknown

If yes, check all that apply:

□ Amoxicillin
□ Ampicillin
□ Ampicillin + sulbactam (Unasyn)
□ Augmentin (amoxicillin + clavulanate)
□ Cefotetan (Cefotan)
□ Cefoxitin (Mefoxin)
□ Cefotaxime (Claforan)
□ Ceftazidime (Fortaz, Tazicef, Tazidime)
□ Ceftizoxime (Cefizox)
□ Ceftriaxone (Rocephin)
□ Cefuroxime (Ceftin)
□ Ciprofloxacin (Cipro)
□ Clindamycin (Cleocin)
□ Gentamicin (Garamycin)
□ Levofloxacin (Levaquin)
□ Metronidazole (Flagyl)
□ Piperacillin + Tazobactam (Zosyn)
□ Ticarcillin + clavulanate (Timentin)
□ Trimethaprim-sulfamethoxazole (Bactrim, Cotrim, TMP/SMX)
□ Other_____
□ Other_____

Did patient require intensive care? □Yes □No □Unknown

If patient was admitted to Intensive Care Unit:

a. Length of stay in ICU, in days:_____

b . Was patient on mechanical ventilation? □Yes □No □Unknown

WORKING OR DISCHARGE DIAGNOSIS(ES) :

1) _____
2) _____
3) _____

OUTCOME:

□Recovered/discharged
□Died
□Still in hospital: □ improving □ worsening
□ Comment_____

ADDITIONAL COMMENTS: _____

Risk Exposure Questions

The following questions pertain to the 2 week period prior to the onset of your illness/symptoms:

Occupation (provide information for all jobs/ volunteer duties)

1. Please briefly describe your job/ volunteer duties:_____

2. Does your job involve contact with the public?
   Yes No If "Yes", specify_____

3. Does anyone else at your workplace have similar symptoms?
   Yes No Unk
   If "Yes", name and approximate date on onset (if known)_____

Knowledge of Other Ill Persons

4. Do you know of other people with similar symptoms? Y / N / Unk

(If Yes, please complete the following questions)

Name of ill person	Age	M/F	Address	Phone number (s)	Date of onset	Relation to you	Did they seek medical care? Where?	Were they diagnosed by a physician? Describe.

Travel*

*Travel is defined as staying overnight (or longer) at somewhere other than the usual residence

8. Have you traveled anywhere in the last two weeks? Y / N / Unk

   Dates of Travel: ____/____/____ to ____/____/____
   Method of Transportation for Travel: _____
   Where Did You Stay? _____
   Purpose of Travel? _____
   Did You Do Any Sightseeing on your trip? Yes □ No □

If yes, specify: _____

Did Anyone Travel With You? Yes □ No □

If yes, specify: _____

Are they ill with similar symptoms? Yes □ No □ Unk □

Information for Additional Trips during the past two weeks:

_____

_____

Public Functions/Venues (during 2 weeks prior to symptom onset)

Category	Yes/No/ Unknown (Y/N/U)	Description of Activity	Location of Activity	Date of Activity	Time of Activity (start, end)	Others ill? (Y/N/U)
9. Sporting Event						
10. Performing Arts (ie Concert, Theater, Opera)						
11. Movie Theater						
12. Religious Gatherings						
13. Picnics						
14. Political Events (including Marches and Rallies)						
15. Meetings or Conferences (work or personal)						
16. Family Planning Clinics						
17. Government Office Building						
18. Airports						
19. Shopping Malls						
20. Gym/Workout Facilities						
21. Casinos						
22. Beaches						
23. Parks						
24. Parties (including Raves, Prom, etc)						
25. Bars/Clubs						
26. Tourist Attractions (ie Sea World, Zoo, Disneyland)						
27. Museums						
28. Street Fairs, Swap Meets, Flea Markets						
29. Carnivals/Circus						
30. Campgrounds						

Transportation

Have you used the following types of transportation in the 2 weeks prior to onset?

31. Bus Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Bus Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Bus#_____)
Company Providing Transportation: _____
Destination:_____

32. Train/Metro Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Route Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Route #_____)
Company Providing Transportation: _____
Destination:_____

33. Airplane Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Flight Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Flight #_____)
Company Providing Transportation: _____
Destination:_____

34. Boat/Ferry Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Ferry Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Ferry #_____)
Company Providing Transportation: _____
Destination:_____

35. Van Pool/Shuttle Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Route Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Route #_____)
Company Providing Transportation: _____
Destination:_____

Food & Beverage

36. During the 2 weeks before your illness, did you eat at any of the following ***food establishments or private gatherings with food or beverages***? (If "yes", circle establishment(s); describe below)

Restaurant, fast-food or deli	Y / N / Unk	Grocery store or salad-bar	Y / N / Unk
Cafeteria at school, hospital, other	Y / N / Unk	Plane, boat, train, other	Y / N / Unk
Concert, movie, other entertainment	Y / N / Unk	Gas station or 24-hr store	Y / N / Unk
Sporting event or snack bar	Y / N / Unk	Street-vended food	Y / N / Unk
Outdoor farmers market or swap meet	Y / N / Unk	Beach, park or outdoor event	Y / N / Unk
Dinner party, barbecue or potluck	Y / N / Unk	Other food establishment	Y / N / Unk
Birthday party or other celebration	Y / N / Unk	Other private gathering	Y / N / Unk

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain):_____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

37. During the 2 weeks before your illness, did you consume any free ***food samples*** from……..?

Grocery store	Y / N / Unk
Race/competition	Y / N / Unk
Public gathering?	Y / N / Unk
Private gathering?	Y / N / Unk

If "YES" for any in question #34, provide date, time, location and list of food items consumed:
Date/Time: _____ Location (Name and Address): _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #34, provide date, time, location and list of food items consumed:
Date/Time: _____ Location (Name and Address):_____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

38. During the 2 weeks before your illness, did you consume any of the following ***products***?

Vitamins	Y / N / Unk	Specify (Include Brand Name):_____
Herbal remedies	Y / N / Unk	Specify (Include Brand Name):_____
Diet Aids	Y / N / Unk	Specify (Include Brand Name):_____
Nutritional Supplements	Y / N / Unk	Specify (Include Brand Name):_____
Other Ingested non-food	Y / N / Unk	Specify (Include Brand Name):_____

39. During the 2 weeks before your illness, did you consume any unpasteurized products (ie milk, cheese, fruit juices)? Y/N/Unk If yes, specify name of item:_____
Date/Time: _____ Location (Name and Address):_____
Others also ill?: Y / N / Unk (explain): _____

40. During the 2 weeks before your illness, did you purchase food from any internet grocers? Y/N/Unk
If yes, specify date / time of delivery:_____ Store/Site:_____
Items purchased:_____

41. During the 2 weeks before your illness, did you purchase any mail order food? Y/N/Unk
If yes, specify date/time of delivery:_____ Store purchased from:_____
Items purchased:_____

42. Please check the routine sources for drinking water (check all that apply):
□ Community or Municipal □ Well (shared) □ Well (private family)
□ Bottled water (Specify Brand:_____) □ Other (Specify:_____)

Recreation*

**Recreation is defined as non-work related activities*

43. In the past two weeks, did you participate in any outdoor activities? Y / N / Unk
(If "yes", list all and provide location)
_____
_____

44. Do you recall any insect or tick bites during these outdoor activities? Y / N / Unk
(If "yes", list all and provide location)
_____
_____

45. Did you participate in other indoor recreational activities (i.e. clubs, crafts, etc that do not occur in a private home)? Y / N / Unk
(List all and provide location)

_____

_____

Vectors

46. Do you recall any insect or tick bites in the last 2 weeks? Y / N / Unk
Date(s) of bite(s):_____ Bitten by □ Mosquito □ Tick □ Flea □ Fly □ Other
Where were you when you were bitten? _____

47. Have you had any contact with wild or domestic animals, including pets? Y / N / Unk
Type of Animal: _____ Explain nature of contact:_____
Is / was the animal ill recently: Y / N / Unk Symptoms:_____
Date / Time of contact:_____ Location of contact:_____

48. To your knowledge, have you been exposed to rodents/rodent droppings in the last 2 weeks? Y / N / Unk If yes, explain type of exposure:_____
Date/Time of exposure:_____
Location where exposure occurred:_____

ENCLOSURE 4: UNSPECIFIED NEUROLOGIC ILLNESS OUTBREAK

Case investigation form

ID NUMBER:_____

INTERVIEWER:_____ AGENCY:_____

DATE OF INTERVIEW:_____/_____/____

PERSON INTERVIEWED: ?Patient ?Other

If other, Name of person _____

Telephone contact _____- _____- _____

Describe relationship _____

DEMOGRAPHIC INFORMATION

LAST NAME: _____ FIRST NAME: _____

SEX: ❒ Male ❒ Female DATE OF BIRTH: ____/____/____ AGE____

RACE: ❒ White ❒ Black ❒ Asian ❒ Other, specify _____ ❒Unknown

ETHNICITY: ❒ Hispanic ❒ Non-Hispanic ❒ Unknown

HOME TELEPHONE: ( ) _____-_____

WORK/OTHER TELEPHONE: ( ) _____-_____

HOME ADDRESS STREET: _____

CITY:_____ STATE:_____ZIP:_____

EMPLOYED: ❒ Yes ❒ No ❒ Unknown

OCCUPATION:_____

WORKPLACE/SCHOOL NAME:_____

WORK/SCHOOL ADDRESS: STREET: _____ CITY: _____

STATE:_____ZIP:_____

HOW MANY PEOPLE RESIDE IN THE SAME HOUSEHOLD? _____

LIST NAME(S), AGE(S), AND RELATIONSHIPS (use additional pages if necessary):

Name					
Age					
Relationship					

CLINICAL INFORMATION (as documented in admission history of medical record or from case/proxy interview)

CHIEF COMPLAINT: _____

DATE OF ILLNESS ONSET: ____/____/____

Briefly summarize History of Present Illness:

_____

_____

_____

SIGNS AND SYMPTOMS

Fever	❒ Yes	❒ No	❒ Unknown
If yes, Maximum temperature _____ ❒ °F			
Antipyretics taken	❒Yes	❒No	❒Unknown
Headache	❒Yes	❒No	❒Unknown
Stiff neck	❒Yes	❒No	❒Unknown
Photophobia	❒Yes	❒No	❒Unknown
Fatigue	❒Yes	❒No	❒Unknown
Altered mental status	❒Yes	❒No	❒Unknown
Unconscious/unresponsive	❒Yes	❒No	❒Unknown
Seizures	❒Yes	❒No	❒Unknown
Sensory changes	❒Yes	❒No	❒Unknown
Muscle weakness	❒Yes	❒No	❒Unknown
If yes, specify:	❒Upper Extremities	❒Lower Extremities	❒Both
	❒Unilateral	❒Bilateral	
Pattern of progression:	Ascending__	Descending__	Unknown__
Blurred or double vision	❒Yes	❒No	❒Unknown
Difficulty swallowing	❒Yes	❒No	❒Unknown
Difficulty speaking	❒Yes	❒No	❒Unknown
Dry mouth	❒Yes	❒No	❒Unknown
Excess salivation	❒Yes	❒No	❒Unknown
Sore throat	❒Yes	❒No	❒Unknown
Muscle pains	❒Yes	❒No	❒Unknown
Nausea	❒Yes	❒No	❒Unknown
Diarrhea	❒Yes	❒No	❒Unknown
Vomiting	❒Yes	❒No	❒Unknown
Shortness of breath	❒Yes	❒No	❒Unknown
Cough	❒Yes	❒No	❒Unknown
Rash	❒Yes	❒No	❒Unknown

If yes, describe:_____

Other abnormality:_____

PAST MEDICAL HISTORY:

Hypertension	❒Yes	❒No	❒Unknown
Diabetes	❒Yes	❒No	❒Unknown
Cardiac disease	❒Yes	❒No	❒Unknown
Seizures	❒Yes	❒No	❒Unknown
Other neurologic condition	❒Yes	❒No	❒Unknown
If yes, describe:_____			
Malignancy	❒Yes	❒No	❒Unknown
If yes, specify type: _____			
Currently on treatment:	❒Yes	❒No	❒Unknown
HIV infection	❒Yes	❒No	❒Unknown
Currently pregnant	❒Yes	❒No	❒Unknown
Other immunocompromising condition (e.g., renal failure, cirrhosis, chronic steroid use)			
	❒Yes	❒No	❒Unknown
If yes, specify disease or drug therapy:_____			

Other underlying condition(s): _____

Prescription medications: _____

SOCIAL HISTORY:

Current alcohol abuse:	❒Yes	❒No	❒Unknown
Past alcohol abuse:	❒Yes	❒No	❒Unknown
Current injection drug use	?Yes	?No	?Unknown
Past injection drug use	?Yes	?No	?Unknown
Current smoker	?Yes	?No	?Unknown
Former smoker	?Yes	?No	?Unknown
Other illicit drug use	?Yes	?No	?Unknown
If yes, specify:_____			

HOSPITAL INFORMATION:

HOSPITALIZED: ❒ Yes ❒ No

NAME OF HOSPITAL: _____

DATE OF ADMISSION: ____/____/____ DATE OF DISCHARGE ____/____/____

ATTENDING PHYSICIAN:

LAST NAME:_____ FIRST NAME:_____

Office Telephone: ( )____- _____Pager: ( ) ____-_____ Fax: ( ) ____-____

MEDICAL RECORD ABSTRACTION :

MEDICAL RECORD NUMBER: _____

HOSPITAL NAME: _____

WARD/ROOM NUMBER: _____

ADMISSION DIAGNOSIS(ES): 1) _____

2) _____

3) _____

PHYSICAL EXAM:

Admission Vital Signs:

Temp:____ (Oral ?/ Rectal ? °F ?/ °C ?) Heart Rate:___ Resp. Rate:___ B/P:___/___

Neurologic examination:

Meningismus (neck stiffness): ?Present ?Absent ?Not Noted

Mental Status: ?Normal ?Abnormal ?Not Noted

If abnormal, level of consciousness:

? Lethargic
? Unconscious
? Other_____

Agitation: ?Present ?Absent ?Not Noted

Cranial nerve function: ?Normal ?Abnormal ?Not Noted

If abnormal, specify:_____

Motor Exam: ?Normal ?Abnormal ?Not Noted

If abnormal, describe: (on a scale of 0/5-5/5, less than 5/5 is weak)

Left Arm	?Normal	?Weak	?Not Noted
Right Arm	?Normal	?Weak	?Not Noted
Left Leg	?Normal	?Weak	?Not Noted
Right Leg	?Normal	?Weak	?Not Noted

Reflexes: ?Normal ?Abnormal ?Not Noted

If abnormal, describe (on a scale of 0-5, 0=Absent; 1=decreased; 2= normal; 3, 4, 5=increased):

Left Arm	?Absent	?Decreased	?Normal	?Increased
Right Arm	?Absent	?Decreased	?Normal	?Increased
Left Leg	?Absent	?Decreased	?Normal	?Increased
Right Leg	?Absent	?Decreased	?Normal	?Increased

Sensory exam: ?Normal ?Abnormal ?Not Noted

Respiratory status: ? Normal ?Abnormal ?Not Noted

If abnormal, describe:_____

Skin: ? Normal ?Abnormal ?Not Noted

If rash present, describe type and location:_____

DIAGNOSTIC STUDIES:

Test	**Results of tests done on Admission (___/___/___)**	**Abnormal test result at any time (specify date mm/dd/yy)**
Hemoglobin (Hb)		(____/____/____)
Hematocrit (HCT)		(____/____/____)
Platelet (plt)		(____/____/____)
Total white blood cell (WBC)		(____/____/____)
WBC differential:		(____/____/____)
% granulocytes (PMNs)		(____/____/____)
% bands		(____/____/____)
% lymphocytes		(____/____/____)
Blood cultures	? positive (specify_____) ? negative ? pending ? not done	? positive (specify_____) ? negative ? pending ? not done (____/____/____)

Test	Results of tests done on Admission (___/___/___)	Abnormal test result at any time (specify date mm/dd/yy)
Botulinum toxin testing--serum	? positive (specify_____) ? negative ? pending ? not done	? positive (specify_____) ? negative ? pending ? not done (____/____/____)
Botulinum toxin testing--stool	? positive (specify_____) ? negative ? pending ? not done	? positive (specify_____) ? negative ? pending ? not done (____/____/____)
Lumbar puncture— cerebrospinal fluid (CSF) analysis: Gram stain (check all that apply)	? no organisms ? gram positive cocci ? gram negative cocci ? gram positive rods ? gram negative coccobacilli ? gram negative rods ? acid-fast bacilli ? fungal forms ? other _____	? no organisms ? gram positive cocci ? gram negative cocci ? gram positive rods ? gram negative coccobacilli ? gram negative rods ? acid-fast bacilli ? fungal forms ? other _____ (____/____/____)
Lumbar puncture—CSF analysis: Bacterial culture	? positive (specify_____) ? negative ? pending ? not done	? positive (specify_____) ? negative ? pending ? not done (____/____/____)

Test	Results of tests done on Admission (___/___/___)	Abnormal test result at any time (specify date mm/dd/yy)
Lumbar puncture—CSF analysis: Viral culture	? positive (specify_____) ? negative ? pending ? not done	? positive (specify_____) ? negative ? pending ? not done (____/____/____)
Lumbar puncture—CSF analysis: Other culture	? positive (specify_____) ? negative ? pending ? not done	? positive (specify_____) ? negative ? pending ? not done (____/____/____)
Lumbar puncture—CSF analysis: Other test (e.g., herpes PCR) Please describe		(____/____/____)
Chest radiograph	? normal ? unilateral, lobar/consolidation ? bilateral, lobar/consolidation ? interstitial infiltrates ? widened mediastinum ? pleural effusion ? other _____	? normal ? unilateral, lobar/consolidation ? bilateral, lobar/consolidation ? interstitial infiltrates ? widened mediastinum ? pleural effusion ? other _____ (____/____/____)
CT Scan of brain	? normal ? abnormal (describe:_____ _____) ? not done	? normal ? abnormal (describe:_____ _____) ? not done (____/____/____)

Test	Results of tests done on Admission (___/___/___)	Abnormal test result at any time (specify date mm/dd/yy)
MRI Scan of brain	? normal ? abnormal (describe:_____ _____) ? not done	? normal ? abnormal (describe:_____ _____) ? not done (____/____/____)
Tensilon test	? normal ? abnormal (describe:_____ _____ ___) ? not done	? normal ? abnormal (describe:_____ _____ ____) ? not done (____/____/____)
Electromyelogram (EMG)	? normal ? abnormal (describe:_____ _____) ? not done	? normal ? abnormal (describe:_____ _____) ? not done (____/____/____)
Other pertinent study results (e.g., toxin assays)		(____/____/____)

NEUROLOGY CONSULTED: ?Yes ?No ?Unknown

Date of Exam:__/__/__

Name of neurologist: Last Name _____ First Name _____

Telephone or beeper number ( ) _____ - _____

INFECTIOUS DISEASE CONSULT: ?Yes ?No ?Unknown

Date:___/___/___

Name of physician: Last Name _____ First Name _____

Telephone or beeper number ( ) _____ - _____

H0SPITAL COURSE:

INITIAL TREATMENT:

a. antibiotics? ?Yes ?No ?Unknown

If yes, check all that apply:

? Ampicillin
? Cefepime (Maxipime)
? Cefotaxime (Claforan)
? Ceftazidime (Fortaz, Tazicef, Tazidime)
? Ceftizoxime (Cefizox)
? Ceftriaxone (Rocephin)
? Chloramphenicol
? Gentamicin (Garamycin)
? Penicillin G
? Trimethaprim-sulfamethoxazole (Bactrim, Cotrim, TMP/SMX)
? Vancomycin (Vancocin)
? other_____

b. antivirals ?Yes ?No ?Unknown

If yes, check all that apply:

? Acyclovir (Zovirax)
? other _____

c. botulinum anti-toxin ?Yes ?No ?Unknown

Did patient require intensive care? ?Yes ?No ?Unknown

If patient was admitted to Intensive Care Unit:

a. Length of stay in ICU, in days:_____

b . Was patient on mechanical ventilation? ?Yes ?No ?Unknown

WORKING OR DISCHARGE DIAGNOSIS(ES) :

1) _____

2) _____

3) _____

OUTCOME:

?Recovered/discharged

?Died

?Still in hospital: a) improving ? b) worsening ?

? Comment_____

ADDITIONAL COMMENTS: _____

Risk Exposure Questions

The following questions pertain to the 2 week period prior to the onset of your illness/symptoms:

Occupation (provide information for all jobs/ volunteer duties)

1. Please briefly describe your job/ volunteer duties:_____

2. Does your job involve contact with the public?
   Yes No If "Yes", specify_____

3. Does anyone else at your workplace have similar symptoms?
   Yes No Unk
   If "Yes", name and approximate date on onset (if known)_____

Knowledge of Other Ill Persons

4. Do you know of other people with similar symptoms? Y / N / Unk

(If Yes, please complete the following questions)

Name of ill person	Age	M/F	Address	Phone number(s)	Date of onset	Relation to you	Did they seek medical care? Where?	Were they diagnosed by a physician? Describe.

Travel*

*Travel is defined as staying overnight (or longer) at somewhere other than the usual residence

8. Have you traveled anywhere in the last two weeks? Y / N / Unk

   Dates of Travel: ____/____/____ to ____/____/____
   Method of Transportation for Travel: _____
   Where Did You Stay? _____
   Purpose of Travel? _____
   Did You Do Any Sightseeing on your trip? Yes No
   If yes, specify: _____

Did Anyone Travel With You? Yes No

If yes, specify: _____

Are they ill with similar symptoms? Yes No Unk

Information for Additional Trips during the past two weeks:

_____

_____

Public Functions/Venues (during 2 weeks prior to symptom onset)

Category	**Yes/No/ Unknown (Y/N/U)**	**Description of Activity**	**Location of Activity**	**Date of Activity**	**Time of Activity** (start, end)	**Others ill? (Y/N/U)**
9. Sporting Event						
10. Performing Arts (ie Concert, Theater, Opera)						
11. Movie Theater						
12. Religious Gatherings						
13. Picnics						
14. Political Events (including Marches and Rallies)						
15. Meetings or Conferences (work or personal)						
16. Family Planning Clinics						
17. Government Office Building						
18. Airports						
19. Shopping Malls						
20. Gym/Workout Facilities						
21. Casinos						
22. Beaches						
23. Parks						
24. Parties (including Raves, Prom, etc)						
25. Bars/Clubs						
26. Tourist Attractions (ie Sea World, Zoo, Disneyland)						
27. Museums						
28. Street Fairs, Swap Meets, Flea Markets						
29. Carnivals/Circus						
30. Campgrounds						

Transportation

Have you used the following types of transportation in the 2 weeks prior to onset?

31. Bus Yes No Unk
Frequency of this type of transportation: Daily Weekly Occasionally Rarely
Bus Number: _____ Origin:_____
Any connections? Yes No (Specify: Location_____ Bus#_____)
Company Providing Transportation: _____ Destination:_____

32. Train/Metro Yes No Unk
Frequency of this type of transportation: Daily Weekly Occasionally Rarely
Route Number: _____ Origin:_____
Any connections? Yes No (Specify: Location_____ Route #_____)
Company Providing Transportation: _____ Destination:_____

33. Airplane Yes No Unk
Frequency of this type of transportation: Daily Weekly Occasionally Rarely
Flight Number: _____ Origin:_____
Any connections? Yes No (Specify: Location_____ Flight #_____)
Company Providing Transportation: _____ Destination:_____

34. Boat/Ferry Yes No Unk
Frequency of this type of transportation: Daily Weekly Occasionally Rarely
Ferry Number: _____ Origin:_____
Any connections? Yes No (Specify: Location_____ Ferry #_____)
Company Providing Transportation: _____ Destination:_____

35. Van Pool/Shuttle Yes No Unk
Frequency of this type of transportation: Daily Weekly Occasionally Rarely
Route Number: _____ Origin:_____
Any connections? Yes No (Specify: Location_____ Route #_____)
Company Providing Transporation: _____ Destination:_____

Food & Beverage

36. During the 2 weeks before your illness, did you eat at any of the following ***food establishments or private gatherings with food or beverages***? (If "yes", circle establishment(s); describe below)

Restaurant, fast-food or deli	Y / N / Unk	Grocery store or salad-bar	Y / N / Unk
Cafeteria at school, hospital, other	Y / N / Unk	Plane, boat, train, other	Y / N / Unk

Concert, movie, other entertainment	Y / N / Unk	Gas station or 24-hr store	Y / N / Unk
Sporting event or snack bar	Y / N / Unk	Street-vended food	Y / N / Unk
Outdoor farmers market or swap meet	Y / N / Unk	Beach, park or outdoor event	Y / N / Unk
Dinner party, barbecue or potluck	Y / N / Unk	Other food establishment	Y / N / Unk
Birthday party or other celebration	Y / N / Unk	Other private gathering	Y / N / Unk

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain):_____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

37. During the 2 weeks before your illness, did you consume any free ***food samples*** from……..?

Grocery store	Y / N / Unk
Race/competition	Y / N / Unk
Public gathering?	Y / N / Unk
Private gathering?	Y / N / Unk

If "YES" for any in question #34, provide date, time, location and list of food items consumed:
Date/Time: _____ Location (Name and Address): _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #34, provide date, time, location and list of food items consumed:
Date/Time: _____ Location (Name and Address):_____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

38. During the 2 weeks before your illness, did you consume any of the following ***products***?

Vitamins	Y / N / Unk	Specify (Include Brand Name):_____
Herbal remedies	Y / N / Unk	Specify (Include Brand Name):_____
Diet Aids	Y / N / Unk	Specify (Include Brand Name):_____
Nutritional Supplements	Y / N / Unk	Specify (Include Brand Name):_____
Other Ingested non-food	Y / N / Unk	Specify (Include Brand Name):_____

39. During the 2 weeks before your illness, did you consume any unpasteurized products (ie milk, cheese, fruit juices)? Y/N/Unk If yes, specify name of item:_____
Date/Time: _____ Location (Name and Address):_____
Others also ill?: Y / N / Unk (explain): _____

40. During the 2 weeks before your illness, did you purchase food from any internet grocers? Y/N/Unk
If yes, specify date / time of delivery:_____ Store/Site:_____
Items purchased:_____

41. During the 2 weeks before your illness, did you purchase any mail order food? Y/N/Unk
If yes, specify date/time of delivery:_____ Store purchased from:_____
Items purchased:_____

42. Please check the routine sources for drinking water (check all that apply):
? Community or Municipal ? Well (shared) ? Well (private family)
? Bottled water (Specify Brand:_____) ? Other (Specify:_____)

Aerosolized water

43. During the 2 weeks prior to illness, did you consume water from any of the following sources (check all that apply):
? Wells ? Lakes ? Streams ? Springs ? Ponds ? Creeks ? Rivers
? Sewage-contaminated water
? Street-vended beverages (Prepared with water and sold by street vendors)
? Ice prepared w/ unfiltered water (Prepared with water that is not from a municipal water supply or that is not bottled or boiled)
? Unpasteurized milk
? Other (Specify:_____)

If "YES" for any in question #43, provide date, time, location and type of water consumed:
Date/Time: _____ Location (Name and Address):_____
Type of water consumed: _____
Others also ill?: Y / N / Unk (explain):_____

44. During the 2 weeks prior to illness, did you engage in any of the following recreational activities (check all that apply):

? Swimming in public pools (e.g., community, municipal, hotel, motel, club, etc)
? Swimming in kiddie/wading pools
? Swimming in sewage-contaminated water
? Swimming in fresh water, lakes, ponds, creeks, rivers, springs, sea, ocean, bay (please circle)
? Wave pools ? Water parks ? Waterslides ? Surfing
? Rafting ? Boating ? Hot tubs (non-private) ? Whirlpools (non-private)
? Jacuzzis (non-private) ? Other (Specify:_____)

If "YES" for any in question #44, provide date, time, location and type of activity:
Date/Time: _____ Location (Name and Address):_____
Type of water consumed: _____
Others also ill?: Y / N / Unk (explain):_____

If "YES" for any in question #44, provide date, time, location and type of activity:
Date/Time: _____ Location (Name and Address):_____
Type of water consumed: _____
Others also ill?: Y / N / Unk (explain):_____

45. During the 2 weeks prior to illness, were you exposed to aerosolized water from any of the following sources (check all that apply):

? Air conditioning at public places ? Respiratory devices* ? Vaporizers*
? Humidifiers* ? Misters* ? Whirlpool spas* ? Hot tubs*
? Spa baths* ? Creek and ponds ? Decorative fountains*
? Other (please explain) _____
* Non-private (i.e., used at hospitals, spas, salons, etc.)

If "YES" for any in question #45, provide date, time, and location of exposure to aerosolized water:
Date/Time: _____ Location (Name and Address):_____
Explanation of aerosolized water: _____
Others also ill: Y / N / Unk (explain):_____

If "YES" for any in question #45, provide date, time, and location of exposure to aerosolized water:
Date/Time: _____ Location (Name and Address):_____
Explanation of aerosolized water: _____
Others also ill: Y / N / Unk (explain):_____

Recreation*

**Recreation is defined as non-work related activities*

46. In the past two weeks, did you participate in any outdoor activities? Y / N / Unk
(If "yes", list all and provide location)

_____

_____

47. Do you recall any insect or tick bites during these outdoor activities? Y / N / Unk
(If "yes", list all and provide location)

_____

_____

48. Did you participate in other indoor recreational activities (i.e. clubs, crafts, etc that do not occur in a private home)? Y / N / Unk
(List all and provide location)

_____

_____

Vectors

49. Do you recall any insect or tick bites in the last 2 weeks? Y / N / Unk
Date(s) of bite(s):_____ Bitten by Mosquito Tick Flea Fly Other:
Where were you when you were bitten? _____

50. Have you had any contact with wild or domestic animals, including pets? Y / N / Unk
Type of Animal: _____ Explain nature of contact:_____
Is / was the animal ill recently: Y / N / Unk Symptoms:_____
Date / Time of contact:_____ Location of contact:_____

51. To your knowledge, have you been exposed to rodents/rodent droppings in the last 2 weeks?
Y / N / Unk If yes, explain type of exposure:_____
Date/Time of exposure:_____
Location where exposure occurred: _____

ENCLOSURE 4: UNSPECIFIED FEVER/RASH ILLNESS OUTBREAK

Case Investigation Form

ID NUMBER:_____ INTERVIEWER:_____

AGENCY:_____

DATE OF INTERVIEW:____/____/____

PERSON INTERVIEWED: ❑Patient ❑Other

If other, Name of person _____

Telephone contact _____- _____- _____

Describe relationship _____

DEMOGRAPHIC INFORMATION

LAST NAME: _____ FIRST NAME: _____

SEX: ❑ Male ❑ Female DATE OF BIRTH: ____/____/____ AGE____

RACE: ❑ White ❑ Black ❑ Asian ❑ Other, specify _____ ❑Unknown

ETHNICITY: ❑ Hispanic ❑ Non-Hispanic ❑ Unknown

HOME TELEPHONE: ( ) _____-_____

WORK/OTHER TELEPHONE: ( ) _____-_____

HOME ADDRESS STREET: _____

CITY:_____ STATE:_____ZIP:_____

EMPLOYED: ❑ Yes ❑ No ❑ Unknown

OCCUPATION:_____

WORKPLACE/SCHOOL NAME:_____

WORK/SCHOOL ADDRESS: STREET: _____ CITY: _____

STATE:_____ZIP:_____

HOW MANY PEOPLE RESIDE IN THE SAME HOUSEHOLD? _____

LIST NAME(S), AGE(S), AND RELATIONSHIPS (use additional pages if necessary):

Name					
Age					
Relationship					

CLINICAL INFORMATION (as documented in admission history of medical record or from case/proxy interview)

CHIEF COMPLAINT: _____

DATE OF ILLNESS ONSET: ____/____/____

Briefly summarize History of Present Illness:

_____
_____
_____

SIGNS AND SYMPTOMS:

Onset date of rash: ____/_____/_____

Symptoms	**Present?**	**Present before Rash (Prodromal)?**
Fever	❑Yes ❑No ❑Unknown If yes, maximum temperature _____ ❑ °F ❑ °C Antipyretics taken: ❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown Date of onset: _____
Chills	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Head ache	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Malaise/fatigue	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Back pain	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Muscle tenderness/pain	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Abdominal Pain	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Delirium/confusion	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Cough	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Coryza	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Conjunctivitis	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Lymphadenopathy	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Bleeding	❑Yes ❑No ❑Unknown	❑Yes ❑No ❑Unknown
Other Symptoms/ abnormality	❑Yes ❑No ❑Unknown Describe:	❑Yes ❑No ❑Unknown Describe:

PAST MEDICAL HISTORY:

Dermatological Condition ❑Yes ❑No ❑Unknown
If yes, describe _____
Food or Drug Allergies ❑Yes ❑No ❑Unknown
If yes, describe _____
Diabetes ❑Yes ❑No ❑Unknown
Malignancy ❑Yes ❑No ❑Unknown
Current Pregnancy ❑Yes ❑No ❑Unknown
HIV infection ❑Yes ❑No ❑Unknown
Other immunocompromising condition (eg. renal failure, cirrhosis, chronic steroid use)
❑Yes ❑No ❑Unknown
If yes, specify disease or drug therapy: _____
Other underlying condition(s): _____

Prescription medications: _____

Antibiotics in the week prior to rash onset? ❑Yes ❑No ❑Unknown

If yes list _____

SOCIAL HISTORY:

Current alcohol abuse	❑Yes	❑No	❑Unknown
Past alcohol abuse	❑Yes	❑No	❑Unknown
Current injection drug use	❑Yes	❑No	❑Unknown
Past injection drug use	❑Yes	❑No	❑Unknown
Other illicit drug use	❑Yes	❑No	❑Unknown

If yes, specify _____

HOSPITAL INFORMATION

Hospitalized? ❑Yes ❑No ❑Unknown

Name of Hospital: _____

ICP name: _____ ICP telephone: ( ) _____-_____

Date of Admission _____/_____/_____ Date of Discharge _____/_____/_____

Name of attending physician: Last _____ First _____

Office telephone: ( ) _____-_____ Pager: ( ) _____-_____ Fax: ( ) _____-_____

MEDICAL RECORD ABSTRACTION:

MEDICAL RECORD NUMBER:_____

HOSPITAL NAME:_____

ROOM NUMBER:_____

ADMISSION DIAGNOSIS(ES):

1) _____
2) _____
3) _____

PHYSICAL EXAM :

Admission Vital Signs:

Temp____ (❑oral / ❑rectal__ ❑ ^{o}F / ❑ ^{o}C) Heart Rate___

Respiratory Rate___ %Oxygen saturation _____

B/P___/___ Hypotension ❑Yes ❑No ❑Unknown

Level of consciousness: ❑Alert ❑Disoriented ❑Lethargic ❑Comatose

Skin exam: Rash

Rash Description (check all that apply):

❑Papular	❑Macular	❑Vesicular
❑Petechial	❑Bullous	❑Erythrematous
❑Purpuric	❑Pustules	❑Scabs

❑Other: _____

Rash Location (check off all areas of body where rash is/was present):

❑Face	❑Chest/Abdomen	❑Arms	❑Legs
❑Neck	❑Back	❑Hands	❑Feet
❑Mouth		❑Palms	❑Soles

Did the rash develop synchronously (rash at same stage on one body area)?
❑Yes ❑No ❑Unknown

Order of rash spread on body (number boxes in order of development, more than one box can have the same number):

Head❑ Trunk❑ Extremities ❑

Is the rash concentrated in one or more areas? ❑Yes ❑No ❑Unknown
If yes, where: _____

Skin exam: Other skin characteristics

Flushing	❑Yes	❑No	❑Unknown
If yes, where? _____			
Edema	❑Yes	❑No	❑Unknown
If yes, where? _____			
Jaundice	❑Yes	❑No	❑Unknown

Other findings:

Lymphadenopathy	❑Yes	❑No	❑Unknown
Hepatomegaly	❑Yes	❑No	❑Unknown
Conjunctivitis	❑Yes	❑No	❑Unknown
Pharyngeal inflammation	❑Yes	❑No	❑Unknown

If yes, explain: _____

Other abnormal physical findings (describe):_____

DIAGNOSTIC STUDIES:

Test	**Results of tests done on admission (___/___/___)**	**Abnormal test result at any time (specify date mm/dd/yy)**
Hemoglobin (Hb)		(____/____/____)
Hematocrit (HCT)		(____/____/____)
Platelet (plt)	Thrombocytopenia? ❑Yes ❑No ❑Unknown	(____/____/____) Thrombocytopenia? ❑Yes ❑No ❑Unknown
Prothrombin time (PT)		(____/____/____)
Partial thromboplastin time (PTT)		(____/____/____)

Test	Results of tests done on admission (___/___/___)	Abnormal test result at any time (specify date mm/dd/yy)
Total white blood cell (WBC)		(____/____/____)
WBC differential:		(____/____/____)
% granulocytes (PMNs)		(____/____/____)
% bands		(____/____/____)
% lymphocytes		(____/____/____)
Bacterial Blood cultures	❑ positive (specify_____) ❑ negative ❑ pending ❑ not done	❑ positive (specify_____) ❑ negative ❑ pending ❑ not done (____/____/____)
Viral Blood Cultures	❑ positive (specify_____) ❑ negative ❑ pending ❑ not done	❑ positive (specify_____) ❑ negative ❑ pending ❑ not done (____/____/____)
Viral Isolation Culture of lesion	❑ positive (specify_____) ❑ negative ❑ pending ❑ not done	❑ positive (specify_____) ❑ negative ❑ pending ❑ not done (____/____/____)
Tzank smear	❑ positive ❑ negative ❑ pending ❑ not done	❑ positive ❑ negative ❑ pending ❑ not done (____/____/____)

Test	Results of tests done on admission (___/___/___)	Abnormal test result at any time (specify date mm/dd/yy)
Lesion scraping/biopsy	❑ positive (specify_____) ❑ negative ❑ pending ❑ not done	❑ positive (specify_____) ❑ negative ❑ pending ❑ not done (____/____/____)
Urinalysis	❑ positive (specify_____) ❑ negative ❑ pending ❑ not done	❑ positive (specify_____) ❑ negative ❑ pending ❑ not done (____/____/____)
Hematuria	❑ positive ❑ negative ❑ pending ❑ unknown	❑ positive ❑ negative ❑ pending ❑ unknown
Renal function: BUN/Cr		(____/____/____)
Liver Enzymes: AST/ALT		(____/____/____)
Chest radiograph	❑ normal ❑ unilateral, lobar/consolidation ❑ bilateral, lobar/consolidation ❑ interstitial infiltrates ❑ widened mediastinum ❑ pleural effusion ❑ other _____	❑ normal ❑ unilateral, lobar/consolidation ❑ bilateral, lobar/consolidation ❑ interstitial infiltrates ❑ widened mediastinum ❑ pleural effusion ❑ other _____ (____/____/____)
Other pertinent study results		(____/____/____)

INFECTIOUS DISEASE CONSULT: ❑Yes ❑No ❑Unknown

Date:___/___/___

Name of physician: Last _____ First _____

Telephone or beeper number ( ) _____ - _____

HOSPITAL TREATMENT:

a) Antibiotics ❑Yes ❑No ❑Unknown

If yes, List antibiotics taken: _____

b) Antivirals ❑Yes ❑No ❑Unknown

If yes, Acyclovir (Zovirax) ❑Yes ❑No ❑Unknown

List other antivirals taken: _____

Was patient placed in a negative pressure room? ❑Yes ❑No ❑Unknown

If yes, how soon after admission? ❑immediate ___minutes ___hours ____days

Did patient require intensive care? ❑Yes ❑No ❑Unknown

Length of stay in ICU, in days: _____

WORKING OR DISCHARGE DIAGNOSIS(ES):

1) _____
2) _____
3) _____

OUTCOME:

❑Recovered/discharged

❑Died

Still in hospital: a) improving❑ b) worsening❑

Comment: _____

ADDITIONAL COMMENTS:

Risk Exposure Questions

The following questions pertain to the 2 week period prior to the onset of your illness/symptoms:

Occupation (provide information for all jobs/ volunteer duties)

1. Please briefly describe your job/ volunteer duties:_____

2. Does your job involve contact with the public?
   Yes No If "Yes", specify_____

3. Does anyone else at your workplace have similar symptoms?
   Yes No Unk
   If "Yes", name and approximate date on onset (if known)_____

Knowledge of Other Ill Persons

4. Do you know of other people with similar symptoms? Y / N / Unk

(If Yes, please complete the following questions)

Name of ill person	Age	M/F	Address	Phone number (s)	Date of onset	Relation to you	Did they seek medical care? Where?	Were they diagnosed by a physician? Describe.

*Travel**

*Travel is defined as staying overnight (or longer) at somewhere other than the usual residence

8. Have you traveled anywhere in the last two weeks? Y / N / Unk

Dates of Travel: ____/____/____ to ____/____/____
Method of Transportation for Travel: _____
Where Did You Stay? _____
Purpose of Travel? _____
Did You Do Any Sightseeing on your trip? Yes □ No □
If yes, specify: _____
Did Anyone Travel With You? Yes □ No □
If yes, specify: _____
Are they ill with similar symptoms? Yes □ No □ Unk □

Information for Additional Trips during the past two weeks:

_____

_____

Public Functions/Venues (during 2 weeks prior to symptom onset)

Category	Yes/No/ Unknown (Y/N/U)	Description of Activity	Location of Activity	Date of Activity	Time of Activity (start, end)	Others ill? (Y/N/U)
9. Sporting Event						
10. Performing Arts (ie Concert, Theater, Opera)						
11. Movie Theater						
12. Religious Gatherings						
13. Picnics						
14. Political Events (including Marches and Rallies)						
15. Meetings or Conferences (work or personal)						
16. Family Planning Clinics						
17. Government Office Building						
18. Airports						
19. Shopping Malls						
20. Gym/Workout Facilities						
21. Casinos						
22. Beaches						
23. Parks						
24. Parties (including Raves, Prom, etc)						
25. Bars/Clubs						
26. Tourist Attractions (ie Sea World, Zoo, Disneyland)						
27. Museums						
28. Street Fairs, Swap Meets, Flea Markets						
29. Carnivals/Circus						
30. Campgrounds						

Transportation

Have you used the following types of transportation in the 2 weeks prior to onset?

31. Bus Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Bus Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Bus#_____)
Company Providing Transportation: _____
Destination:_____

32. Train/Metro Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Route Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Route #_____)
Company Providing Transportation: _____
Destination:_____

33. Airplane Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Flight Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Flight #_____)
Company Providing Transportation: _____
Destination:_____

34. Boat/Ferry Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Ferry Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Ferry #_____)
Company Providing Transportation: _____
Destination:_____

35. Van Pool/Shuttle Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Route Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Route #_____)
Company Providing Transporation: _____
Destination:_____

Food & Beverage

36. During the 2 weeks before your illness, did you eat at any of the following ***food establishments or private gatherings with food or beverages***? (If "yes", circle establishment(s); describe below)

Restaurant, fast-food or deli	Y / N / Unk	Grocery store or salad-bar	Y / N / Unk
Cafeteria at school, hospital, other	Y / N / Unk	Plane, boat, train, other	Y / N / Unk
Concert, movie, other entertainment	Y / N / Unk	Gas station or 24-hr store	Y / N / Unk
Sporting event or snack bar	Y / N / Unk	Street-vended food	Y / N / Unk
Outdoor farmers market or swap meet	Y / N / Unk	Beach, park or outdoor event	Y / N / Unk
Dinner party, barbecue or potluck	Y / N / Unk	Other food establishment	Y / N / Unk
Birthday party or other celebration	Y / N / Unk	Other private gathering	Y / N / Unk

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain):_____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

37. During the 2 weeks before your illness, did you consume any free ***food samples*** from……..?

Grocery store	Y / N / Unk
Race/competition	Y / N / Unk
Public gathering?	Y / N / Unk
Private gathering?	Y / N / Unk

If "YES" for any in question #34, provide date, time, location and list of food items consumed:
Date/Time: _____ Location (Name and Address): _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #34, provide date, time, location and list of food items consumed:
Date/Time: _____ Location (Name and Address):_____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

38. During the 2 weeks before your illness, did you consume any of the following ***products***?

Vitamins	Y / N / Unk	Specify (Include Brand Name):_____
Herbal remedies	Y / N / Unk	Specify (Include Brand Name):_____
Diet Aids	Y / N / Unk	Specify (Include Brand Name):_____
Nutritional Supplements	Y / N / Unk	Specify (Include Brand Name):_____
Other Ingested non-food	Y / N / Unk	Specify (Include Brand Name):_____

39. During the 2 weeks before your illness, did you consume any unpasteurized products (ie milk, cheese, fruit juices)? Y/N/Unk If yes, specify name of item:_____
Date/Time: _____ Location (Name and Address):_____
Others also ill?: Y / N / Unk (explain): _____

40. During the 2 weeks before your illness, did you purchase food from any internet grocers? Y/N/Unk
If yes, specify date / time of delivery:_____ Store/Site:_____
Items purchased:_____

41. During the 2 weeks before your illness, did you purchase any mail order food? Y/N/Unk
If yes, specify date/time of delivery:_____ Store purchased from:_____
Items purchased:_____

42. Please check the routine sources for drinking water (check all that apply):
□ Community or Municipal □ Well (shared) □ Well (private family)
□ Bottled water (Specify Brand:_____) □ Other (Specify:_____)

Recreation*

**Recreation is defined as non-work related activities*

43. In the past two weeks, did you participate in any outdoor activities? Y / N / Unk
(If "yes", list all and provide location)
_____
_____

44. Do you recall any insect or tick bites during these outdoor activities? Y / N / Unk
(If "yes", list all and provide location)
_____
_____

45. Did you participate in other indoor recreational activities (i.e. clubs, crafts, etc that do not occur in a private home)? Y / N / Unk
(List all and provide location)

_____

_____

Vectors

46. Do you recall any insect or tick bites in the last 2 weeks? Y / N / Unk
Date(s) of bite(s):_____ Bitten by □ Mosquito □ Tick □ Flea □ Fly □ Other:
Where were you when you were bitten? _____

47. Have you had any contact with wild or domestic animals, including pets? Y / N / Unk
Type of Animal: _____ Explain nature of contact:_____
Is / was the animal ill recently: Y / N / Unk Symptoms:_____
Date / Time of contact:_____ Location of contact:_____

48. To your knowledge, have you been exposed to rodents/rodent droppings in the last 2 weeks? Y / N / Unk If yes, explain type of exposure:_____
Date/Time of exposure:_____
Location where exposure occurred:_____

ENCLOSURE 4: UNSPECIFIED RESPIRATORY ILLNESS OUTBREAK

Case Investigation Form

ID NUMBER:_____

INTERVIEWER:_____

AGENCY:_____

DATE OFNTERVIEW:____/____/____

PERSON INTERVIEWED: □Patient □Other

If other, Name of person _____

Telephone contact ____- ____- _____

Describe relationship _____

DEMOGRAPHIC INFORMATION

LAST NAME: _____ FIRST NAME: _____

SEX: □ Male □ Female DATE OF BIRTH: ____/____/____ AGE____

RACE: □ White□ Black □ Asian □ Other, specify _____ □Unknown

ETHNICITY: □ Hispanic □ Non-Hispanic □ Unknown

HOME TELEPHONE: ( ) _____-_____

WORK/OTHER TELEPHONE: ( ) _____-_____

HOME ADDRESS STREET: _____

CITY:_____ STATE:_____ZIP:_____

EMPLOYED: □ Yes □ No □ Unknown

OCCUPATION:_____

WORKPLACE/SCHOOL NAME:_____

WORK/SCHOOL ADDRESS: STREET: _____ CITY: _____

STATE:_____ZIP:_____

HOW MANY PEOPLE RESIDE IN THE SAME HOUSEHOLD? _____

LIST NAME(S), AGE(S), AND RELATIONSHIPS (use additional pages if necessary):

Name					
Age					
Relationship					

CLINICAL INFORMATION (as documented in admission history of medical record or from case/proxy interview)

CHIEF COMPLAINT: _____

DATE OF ILLNESS ONSET: ____/____/____

Briefly summarize History of Present Illness: _____

_____

_____

SIGNS AND SYMPTOMS:

Cough	□Yes	□No	□Unknown
If yes, sputum production?	□Yes	□No	□Unknown
If yes, any blood?	□Yes	□No	□Unknown
Chest pain	□Yes	□No	□Unknown
Shortness of breath	□Yes	□No	□Unknown
Stridor/wheezing	□Yes	□No	□Unknown
Cyanosis	□Yes	□No	□Unknown
Conjunctivitis	□Yes	□No	□Unknown
Tender/enlarged glands	□Yes	□No	□Unknown
Fever	□ Yes	□ No	□ Unknown
If yes, maximum temperature _____ □ °F □ °C			
Antipyretics taken:	□Yes	□No	□Unknown
Headache	□Yes	□No	□Unknown
Muscle aches	□Yes	□No	□Unknown
Fatigue	□Yes	□No	□Unknown
Joint pains	□Yes	□No	□Unknown
Stiff neck	□Yes	□No	□Unknown
Altered mental status	□Yes	□No	□Unknown
Unconscious/unresponsive	□Yes	□No	□Unknown
Nausea	□Yes	□No	□Unknown
Vomiting	□Yes	□No	□Unknown
Diarrhea	□Yes	□No	□Unknown
Abdominal pain	□Yes	□No	□Unknown
Rash	□Yes	□No	□Unknown
If yes, describe:_____			

Other symptom/abnormality:_____

Did patient appear to improve and then relapse? □Yes □No □Unknown

PAST MEDICAL HISTORY:

Diabetes	□Yes	□No	□Unknown
Cardiac disease	□Yes	□No	□Unknown
Pulmonary disease	□Yes	□No	□Unknown

If yes,
describe:_____

Malignancy	□Yes	□No	□Unknown
If yes, specify type: _____			
Currently on treatment:	□Yes	□No	□Unknown
Currently pregnant	□Yes	□No	□Unknown
HIV infection	□Yes	□No	□Unknown
Other immunocompromising condition (e.g., renal failure, cirrhosis, chronic steroid use)			
	□Yes	□No	□Unknown

If yes, specify disease or drug therapy:_____ _____
Other underlying condition(s): _____
Prescription Medications: _____
_____

SOCIAL HISTORY:

Current alcohol abuse	□Yes	□No	□Unknown
Past alcohol abuse	□Yes	□No	□Unknown
Current injection drug use	□Yes	□No	□Unknown
Past injection drug use	□Yes	□No	□Unknown
Current smoker	□Yes	□No	□Unknown
Former smoker	□Yes	□No	□Unknown
Other illicit drug use	□Yes	□No	□Unknown

If yes,
specify:_____

HOSPITAL INFORMATION:

HOSPITALIZED □ Yes □ No

NAME OF HOSPITAL: _____

DATE OF ADMISSION ____/____/____ DATE OF DISCHARGE ____/____/____

NAME OF ATTENDING PHYSICIAN: Last _____ First _____

Office Telephone: ( )____- _____ Pager: ( ) ____-_____ Fax: ( ) ____-_____

MEDICAL RECORD ABSTRACTION:

MEDICAL RECORD NUMBER:_____

HOSPITAL NAME:_____

ROOM NUMBER:_____

ADMISSION DIAGNOSIS(ES): 1) _____

2_____

3) _____

PHYSICAL EXAM:

Admission Vital Signs:

Temp____ (□oral / □rectal__ □ °F / □ °C) Heart Rate___ B/P___/___

Resp. Rate___ %Oxygen saturation _____

Mental Status: □Normal □Abnormal □Not Noted

If abnormal, describe:_____

Respiratory status: □Normal spontaneous □Respiratory distress □Ventilatory support

If abnormal, check all that apply:

□ rales □ decreased or absent breath sounds □ wheezing/stridor

□ other (specify:_____)

Skin: □Normal □Abnormal □Not Noted

If abnormal, check all that apply:

□ edema □ chest wall edema □ cyanosis □ erythema

□ sloughing/necrosis □ rash □ petechiae □ purpura

If rash present, describe type and location:_____

Other abnormal physical findings (describe):_____

DIAGNOSTIC STUDIES:

Test	**Results of tests done on admission (___/___/___)**	**Abnormal test result at any time (specify date mm/dd/yy)**
Hemoglobin (Hb)		(____/____/____)
Hematocrit (HCT)		(____/____/____)
Platelet (plt)		(____/____/____)
Prothrombin time (PT)		(____/____/____)
Partial thromboplastin time (PTT)		(____/____/____)
Total white blood cell (WBC)		(____/____/____)
WBC differential:		

Test	Results of tests done on admission (___/___/___)	Abnormal test result at any time (specify date mm/dd/yy)
		(____/____/____)
% granulocytes (PMNs)		(____/____/____)
% bands		(____/____/____)
% lymphocytes		(____/____/____)
Renal function: BUN/Cr		(____/____/____)
Liver enzymes: AST/ALT		(____/____/____)
Blood cultures	□ positive (specify_____) □ negative □ pending □ not done	□ positive (specify_____) □ negative □ pending □ not done (____/____/____)
Respiratory secretions: specimen type	□ expectorated sputum □ induced sputum □ bronchial alveolar lavage (BAL) □ tracheal aspirate	□ expectorated sputum □ induced sputum □ bronchial alveolar lavage (BAL) □ tracheal aspirate (____/____/____)
Respiratory secretions: Gram stain (check all that apply)	□ PMNs □ epithelial cells □ gram positive cocci □ gram negative cocci □ gram positive rods □ gram negative coccobacilli □ gram negative bipolar staining/safety pin shaped rods □ gram negative rods □ other _____	□ PMNs □ epithelial cells □ gram positive cocci □ gram negative cocci □ gram positive rods □ gram negative coccobacilli □ gram negative bipolar staining/safety pin shaped rods □ gram negative rods □ other_____ (____/____/____)

Test	Results of tests done on admission (___/___/___)	Abnormal test result at any time (specify date mm/dd/yy)
Respiratory secretions: Bacterial culture	□ positive (specify_____) □ negative □ pending □ not done	□ positive (specify_____) □ negative □ pending □ not done (____/____/____)
Respiratory secretions: Viral culture	□ positive (specify_____) □ negative □ pending □ not done	□ positive (specify_____) □ negative □ pending □ not done (____/____/____)
Respiratory secretions: Influenza antigen	□ positive □ negative □ pending □ not done	□ positive □ negative □ pending □ not done (____/____/____)
Respiratory secretions: Other tests (DFA, PCR, etc.)		(____/____/____)
Chest radiograph	□ normal □ unilateral, lobar/consolidation □ bilateral, lobar/consolidation □ interstitial infiltrates □ widened mediastinum □ pleural effusion □ other _____	□ normal □ unilateral, lobar/consolidation □ bilateral, lobar/consolidation □ interstitial infiltrates □ widened mediastinum □ pleural effusion □ other _____ (____/____/____)
Legionella urine antigen	□ positive □ negative □ pending □ not done	□ positive □ negative □ pending □ not done (____/____/____)
Other pertinent study results (e.g., chest CT, pleural fluid)		(____/____/____)

Test	Results of tests done on admission (___/___/___)	Abnormal test result at any time (specify date mm/dd/yy)

INFECTIOUS DISEASE CONSULT: □Yes □No □Unknown

Date:___/___/___

Name of physician: Last _____ First _____

Telephone or beeper number ( ) _____ - _____

H0SPITAL TREATMENT:

a. antibiotics □Yes □No □Unknown

If yes, check all that apply:

□ Amoxicillin
□ Ampicillin
□ Ampicillin + sulbactam (Unasyn)
□ Augmentin (amoxicillin + clavulanate)
□ Azithromycin (Zithromax)
□ Cefazolin (Ancef, Kefzol)
□ Cefepime (Maxipime)
□ Cefixime (Suprax)
□ Cefotetan (Cefotan)
□ Cefotaxime (Claforan)
□ Cefoxitin (Mefoxin)
□ Ceftazidime (Fortaz, Tazicef, Tazidime)
□ Ceftizoxime (Cefizox)
□ Ceftriaxone (Rocephin)
□ Cefuroxime (Ceftin)
□ Cephalexin (Keflex, Keftab)
□ Ciprofloxacin (Cipro)
□ Clarithromycin (Biaxin)
□ Doxycycline (Doryx, Vibramycin)
□ Erythromycin (E-Mycin, Ery-Tab, Eryc
□ Gentamicin (Garamycin)
□ Levofloxacin (Levaquin)
□ Nafcillin
□ Ofloxacin (Floxin)
□ Streptomycin
□ Ticarcillin + clavulanate (Timentin)
□ Trimethaprim-sulfamethoxazole (Bactrim, Cotrim, TMP/SMX)
□ Vancomycin (Vancocin)
□ other_____

b. antivirals □Yes □No □Unknown

If yes, check all that apply:

□ Acyclovir (Zovirax)

□ Amantadine (Symmetrel)

□ Oseltamivir (Tamiflu)

□ Rimantidine (Flumadine)

□ Zanamivir (Relenza)

□ other _____

Did patient require intensive care? □Yes □No □Unknown

If patient was admitted to Intensive Care Unit:

a. Length of stay in ICU, in days:_____

b . Was patient on mechanical ventilation? □Yes □No □Unknown

WORKING OR DISCHARGE DIAGNOSIS(ES)

1) _____

2) _____

3) _____

OUTCOME:

□Recovered/discharged

□Died

□Still in hospital: a) improving □ b) worsening □

□ Comment_____ _____

ADDITIONAL COMMENTS: _____

_____

_____

Risk Exposure Questions

The following questions pertain to the 2 week period prior to the onset of your illness/symptoms:

Occupation (provide information for all jobs/ volunteer duties)

1. Please briefly describe your job/ volunteer duties:_____

2. Does your job involve contact with the public?
   Yes No
   If "Yes", specify_____

3. Does anyone else at your workplace have similar symptoms?
   Yes No Unk
   If "Yes", name and approximate date on onset (if known)_____

Knowledge of Other Ill Persons

4. Do you know of other people with similar symptoms? Y / N / Unk

(If Yes, please complete the following questions)

Name of ill person	Age	M/F	Address	Phone number (s)	Date of onset	Relation to you	Did they seek medical care? Where?	Were they diagnosed by a physician? Describe.

Travel*

*Travel is defined as staying overnight (or longer) at somewhere other than the usual residence

8. Have you traveled anywhere in the last two weeks? Y / N / Unk

Dates of Travel: ____/____/____ to ____/____/____
Method of Transportation for Travel: _____
Where Did You Stay? _____
Purpose of Travel? _____
Did You Do Any Sightseeing on your trip? Yes □ No □

If yes, specify: _____
Did Anyone Travel With You? Yes □ No □
If yes, specify: _____
Are they ill with similar symptoms? Yes □ No □ Unk □

Information for Additional Trips during the past two weeks:

_____
_____

Public Functions/Venues (during 2 weeks prior to symptom onset)

Category	**Yes/No/ Unknown (Y/N/U)**	**Description of Activity**	**Location of Activity**	**Date of Activity**	**Time of Activity** (start, end)	**Anyone else ill? (Y/N/U)**
9. Sporting Event						
10. Performing Arts (ie Concert, Theater, Opera)						
11. Movie Theater						
12. Religious Gatherings						
13. Picnics						
14. Political Events (including Marches and Rallies)						
15. Meetings or Conferences (for work or personal interests)						
16. Family Planning Clinics						
17. Government Office Building						
18. Airports						
19. Shopping Malls						
20. Gym/Workout Facilities						
21. Casinos						
22. Beaches						
23. Parks						
24. Parties (including Raves, Prom, etc)						
25. Bars/Clubs						
26. Tourist Attractions (ie Sea World, Zoo, Disneyland)						
27. Museums						
28. Street Fairs, Swap Meets, Flea Markets						
29. Carnivals/Circus						
30. Campgrounds						

Transportation

Have you used the following types of transportation in the 2 weeks prior to onset?

31. Bus Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Bus Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Bus#_____)
Company Providing Transportation: _____
Destination:_____

32. Train/Metro Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Route Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Route #_____)
Company Providing Transportation: _____
Destination:_____

33. Airplane Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Flight Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Flight #_____)
Company Providing Transportation: _____
Destination:_____

34. Boat/Ferry Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Ferry Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Ferry #_____)
Company Providing Transportation: _____
Destination:_____

35. Van Pool/Shuttle Yes □ No □ Unk □
Frequency of this type of transportation: □ Daily □ Weekly □ Occasionally □ Rarely
Route Number: _____ Origin:_____
Any connections? Yes □ No □ (Specify: Location_____ Route #_____)
Company Providing Transporation: _____
Destination:_____

Food & Beverage

36. During the 2 weeks before your illness, did you eat at any of the following ***food establishments or private gatherings with food or beverages***? (If "yes", circle establishment(s); describe below)

Restaurant, fast-food or deli	Y / N / Unk	Grocery store or salad-bar	Y / N / Unk
Cafeteria at school, hospital, other	Y / N / Unk	Plane, boat, train, other	Y / N / Unk
Concert, movie, other entertainment	Y / N / Unk	Gas station or 24-hr store	Y / N / Unk
Sporting event or snack bar	Y / N / Unk	Street-vended food	Y / N / Unk
Outdoor farmers market or swap meet	Y / N / Unk	Beach, park or outdoor event	Y / N / Unk
Dinner party, barbecue or potluck	Y / N / Unk	Other food establishment	Y / N / Unk
Birthday party or other celebration	Y / N / Unk	Other private gathering	Y / N / Unk

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain):_____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #36, provide date, time, location and list of food items consumed:
Date/Time: _____ Location: _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

37. During the 2 weeks before your illness, did you consume any free ***food samples*** from……..?

Grocery store	Y / N / Unk
Race/competition	Y / N / Unk
Public gathering?	Y / N / Unk
Private gathering?	Y / N / Unk

If "YES" for any in question #34, provide date, time, location and list of food items consumed:
Date/Time: _____ Location (Name and Address): _____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

If "YES" for any in question #34, provide date, time, location and list of food items consumed:
Date/Time: _____ Location (Name and Address):_____
Food/drink consumed: _____
Others also ill?: Y / N / Unk (explain): _____

38. During the 2 weeks before your illness, did you consume any of the following ***products***?

Vitamins	Y / N / Unk	Specify (Include Brand Name):_____
Herbal remedies	Y / N / Unk	Specify (Include Brand Name):_____
Diet Aids	Y / N / Unk	Specify (Include Brand Name):_____
Nutritional Supplements	Y / N / Unk	Specify (Include Brand Name):_____
Other Ingested non-food	Y / N / Unk	Specify (Include Brand Name):_____

39. During the 2 weeks before your illness, did you consume any unpasteurized products (ie milk, cheese, fruit juices)? Y/N/Unk If yes, specify name of item:_____
Date/Time: _____ Location (Name and Address):_____
Others also ill?: Y / N / Unk (explain): _____

40. During the 2 weeks before your illness, did you purchase food from any internet grocers? Y/N/Unk
If yes, specify date / time of delivery:_____ Store/Site:_____
Items purchased:_____

41. During the 2 weeks before your illness, did you purchase any mail order food? Y/N/Unk
If yes, specify date/time of delivery:_____ Store purchased from:_____
Items purchased:_____

42. Please check the routine sources for drinking water (check all that apply):
□ Community or Municipal □ Well (shared) □ Well (private family)
□ Bottled water (Specify Brand:_____) □ Other (Specify:_____)

Aerosolized water

43. During the 2 weeks prior to illness, did you consume water from any of the following sources (check all that apply):
□ Wells □ Lakes □ Streams □ Springs □ Ponds □ Creeks □ Rivers
□ Sewage-contaminated water
□ Street-vended beverages (Prepared with water and sold by street vendors)
□ Ice prepared w/ unfiltered water (Prepared with water that is not from a municipal water supply or that is not bottled or boiled)
□ Unpasteurized milk
□ Other (Specify:_____)

If "YES" for any in question #43, provide date, time, location and type of water consumed:
Date/Time: _____ Location (Name and Address):_____
Type of water consumed: _____
Others also ill?: Y / N / Unk (explain):_____

44. During the 2 weeks prior to illness, did you engage in any of the following recreational activities (check all that apply):

□ Swimming in public pools (e.g., community, municipal, hotel, motel, club, etc)
□ Swimming in kiddie/wading pools
□ Swimming in sewage-contaminated water
□ Swimming in fresh water, lakes, ponds, creeks, rivers, springs, sea, ocean, bay (please circle)
□ Wave pools □ Water parks □ Waterslides □ Surfing
□ Rafting □ Boating □ Hot tubs (non-private) □ Whirlpools (non-private)
□ Jacuzzis (non-private) □ Other (Specify:_____)

If "YES" for any in question #44, provide date, time, location and type of activity:
Date/Time: _____ Location (Name and Address):_____
Type of water consumed: _____
Others also ill?: Y / N / Unk (explain):_____

If "YES" for any in question #44, provide date, time, location and type of activity:
Date/Time: _____ Location (Name and Address):_____
Type of water consumed: _____
Others also ill?: Y / N / Unk (explain):_____

45. During the 2 weeks prior to illness, were you exposed to aerosolized water from any of the following sources (check all that apply):

□ Air conditioning at public places □ Respiratory devices* □ Vaporizers*
□ Humidifiers* □ Misters* □ Whirlpool spas* □ Hot tubs*
□ Spa baths* □ Creek and ponds □ Decorative fountains*
□ Other (please explain) _____
* Non-private (i.e., used at hospitals, spas, salons, etc.)

If "YES" for any in question #45, provide date, time, and location of exposure to aerosolized water:
Date/Time: _____ Location (Name and Address):_____
Explanation of aerosolized water: _____
Others also ill: Y / N / Unk (explain):_____

If "YES" for any in question #45, provide date, time, and location of exposure to aerosolized water:

Date/Time: _____ Location (Name and Address):_____
Explanation of aerosolized water: _____
Others also ill: Y / N / Unk (explain):_____

Recreation*

**Recreation is defined as non-work related activities*

46. In the past two weeks, did you participate in any outdoor activities? Y / N / Unk
(If "yes", list all and provide location)

_____
_____

47. Do you recall any insect or tick bites during these outdoor activities? Y / N / Unk
(If "yes", list all and provide location)

_____
_____

48. Did you participate in other indoor recreational activities (i.e. clubs, crafts, etc that do not occur in a private home)? Y / N / Unk
(List all and provide location)

_____
_____

Vectors

49. Do you recall any insect or tick bites in the last 2 weeks? Y / N / Unk
Date(s) of bite(s):_____ Bitten by □ Mosquito □ Tick □ Flea □ Fly □ Other:
Where were you when you were bitten? _____

50. Have you had any contact with wild or domestic animals, including pets? Y / N / Unk
Type of Animal: _____ Explain nature of contact:_____

Is / was the animal ill recently: Y / N / Unk Symptoms:_____
Date / Time of contact:_____ Location of contact:_____

51. To your knowledge, have you been exposed to rodents/rodent droppings in the last 2 weeks?
Y / N / Unk If yes, explain type of exposure:_____
Date/Time of exposure:_____
Location where exposure occurred:_____